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MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA

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1962

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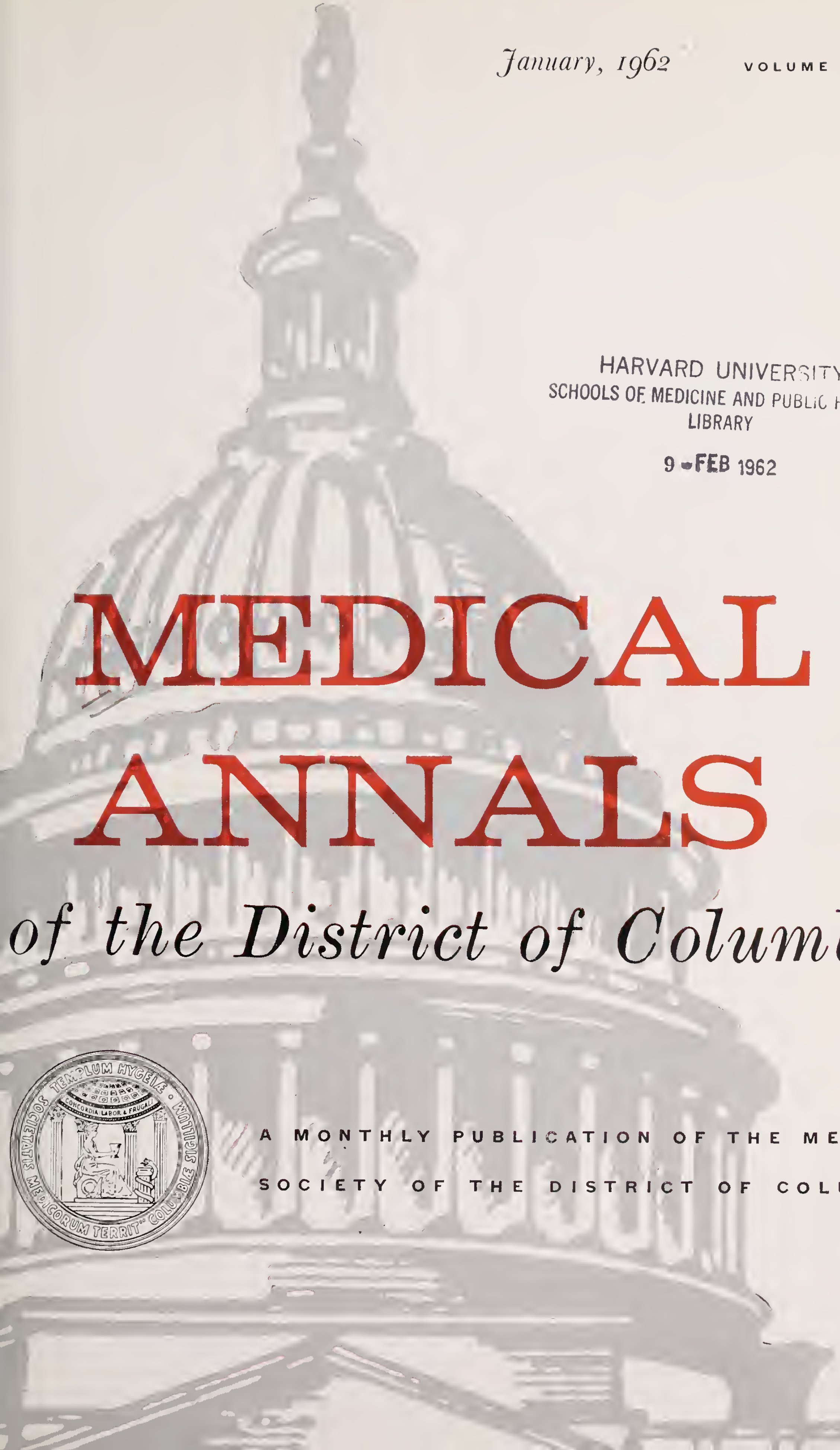

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References: (1) Malone, F. J., Jr.: *Mil. Med.* 125:836, 1960. (2) Martin, W. J.; Nichols, D. R., & Cook, E. N.: *Proc. Staff Meet. Mayo Clin.* 34:187, 1959. (3) Ullman, A.: *Delaware M. J.* 32:97, 1960. (4) Petersdorf, R. G.; Hook, E. W.; Curtin, J. A., & Grossberg, S. E.: *Bull. Johns Hopkins Hosp.* 108:48, 1961. (5) Jolliff, C. R.; Engelhard, W. E.; Ohlsen, J. R.; Heidrick, P. J., & Cain, J. A.: *Antibiotics & Chemother.* 10:694, 1960. (6) Lind, H. E.: *Am. J. Proctol.* 11:392, 1960.

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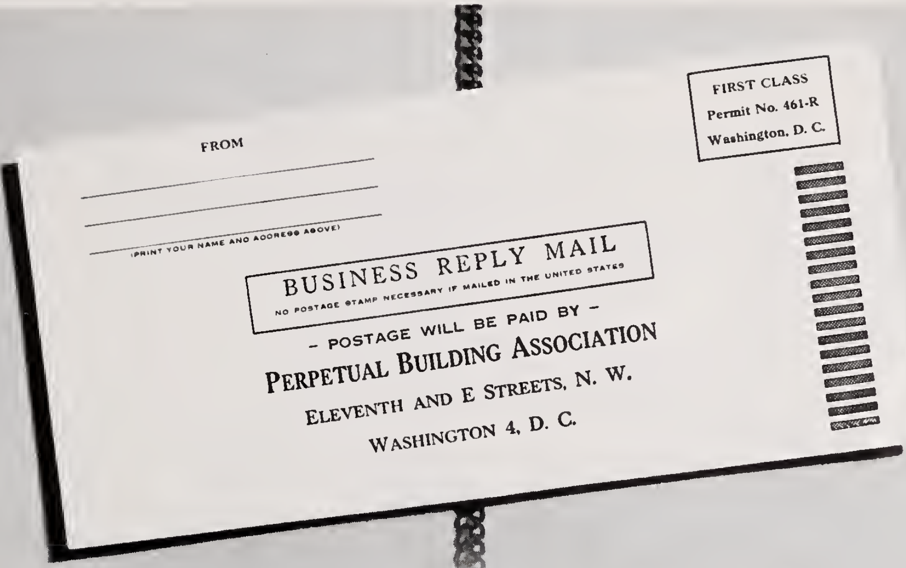

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ADMINISTRATION AND DOSAGE

Dosage should always be adjusted to the response of the individual and according to the severity of the condition. It is important to increase dosage until symptoms are controlled or side effects become troublesome. In emaciated or senile patients, dosage increases should be made more gradually than in other patients.

ADULT DOSAGE

Mental and Emotional Disturbances (e.g., agitation, excitement, or anxiety)—*Starting oral dosage* is 10 mg. t.i.d. or q.i.d., or 25 mg. b.i.d. or t.i.d. After a day or two, dosage may be increased by increments of 20 mg. to 50 mg. daily, at semiweekly intervals, until maximum clinical response is achieved. Continue dosage at this level for at least two weeks; then it can usually be reduced to a maintenance level. A daily dosage of 200 mg. is "average," but some patients may require substantially higher dosages. Discharged mental patients, for example, may require daily dosages as high as 800 mg. *Starting intramuscular dose* is 25 mg. (1 cc.). If necessary, and if no hypotension occurs, repeat the initial dose in one hour. Subsequent dosages should be oral, starting at 25 mg. to 50 mg. t.i.d.

Alcoholism—Severely agitated patients: *Starting intramuscular dose* is 25 mg. to 50 mg. (1-2 cc.). Repeat initial dose if necessary and if no hypotension occurs. Start subsequent oral dosages at 25 mg. to 50 mg. t.i.d. **Agitated but manageable patients:** *Starting oral dose* is 50 mg., followed by 25 mg. to 50 mg. t.i.d. For ambulatory patients with withdrawal symptoms or sober chronic alcoholics, *starting oral dosage* is 10 mg. t.i.d. or q.i.d., or 25 mg. b.i.d. or t.i.d. Patients in a stuporous condition should be allowed to sleep off some of the effects of the alcohol before 'Thorazine' is administered.

CHILDREN'S DOSAGE

For Behavior Disorders—*Oral dosage* is on the basis of ¼ mg./lb. of body weight q4-6h, until symptoms are controlled (i.e., for 40 lb. child—10 mg. q4-6h). *Rectal dosage* is on the basis of ½ mg./lb. of body weight q6-8h, p.r.n. (i.e., for 20-30 lb. child—half of a 25 mg. suppository q6-8h). *Intramuscular dosage* is on the basis of ¼ mg./lb. of body weight q6-8h, p.r.n. In children up to 5 years (or 50 lbs.)—not over 40 mg./day; in children 5-12 years (or 50-100 lbs.)—not over 75 mg./day except in extreme unmanageable cases. In severe cases, higher dosages than those recommended above may be necessary. In such cases, 50-100 mg. daily has been used and, in older children, as much as 200 mg. daily or more may be required.

IMPORTANT NOTES ON INJECTION

Except for acute ambulatory cases, parenteral administration should generally be reserved for bedfast patients. Parenteral administration should always be made with the patient lying down and remaining so for at least ½ hour afterward because of possible hypotensive effects. The injection should be given *slowly, deep* into the upper outer quadrant of the buttock. If irritation and pain at the site of injection are problems, dilution of 'Thorazine' Injection with physiologic saline solution or 2% procaine solution may be helpful. Subcutaneous administration is not advisable, and care should be taken to avoid injecting undiluted 'Thorazine' Injection into a vein. Intravenous administration is recommended only for severe hiccups and surgery.

'Thorazine' Injection should not be mixed with other agents in the syringe. Because contact dermatitis has been reported with 'Thorazine', nurses or others giving frequent injections should avoid getting the solution on hands or clothing. 'Thorazine' Injection should be protected from light, since exposure may cause discoloration. Slight yellowish discoloration will not alter potency or efficacy. If markedly discolored, the solution should be discarded.

SIDE EFFECTS

The drowsiness caused by 'Thorazine' is usually mild to moderate and disappears after the first or second week of therapy. If, however, drowsiness is troublesome, it can usually be controlled by lowering the dosage or by administering small amounts of dextro amphetamine.

Other side effects reported occasionally are dryness of the mouth, nasal congestion, some constipation, miosis in a few patients and, very rarely, mydriasis.

Mild fever (99°F.) may occur occasionally during the first days of therapy with large intramuscular doses.

Some patients have an increased appetite and gain weight, but usually reach a plateau beyond which they do not gain.

CAUTIONS

Jaundice: The over-all incidence of jaundice due to 'Thorazine' has been low—regardless of indication, dosage, or mode of administration. It appears to be related to duration of therapy. Few cases have occurred in less than one week or after six weeks. The jaundice that has occurred mimics the obstructive type, is without parenchymal damage, and is usually promptly reversible upon the withdrawal of 'Thorazine'. Although the mechanism is not clearly understood, most investigators conclude that it is a sensitivity reaction in susceptible individuals.

There is no conclusive evidence to indicate that pre-existing liver disease makes the patient more susceptible to jaundice. (Patients with known alcoholic cirrhosis have been treated with 'Thorazine' without further alteration of liver function.) Nevertheless, 'Thorazine' should be used with due consideration in a patient with liver disease.

If a patient on 'Thorazine' suddenly develops fever with grippe-like symptoms, his serum should be tested for increased bilirubin or his urine for the presence of bile. If any of these tests are positive, 'Thorazine' should be discontinued.

Because detailed liver function tests of 'Thorazine'-induced jaundice give a picture which mimics extrahepatic obstruction, exploratory laparotomy should be withheld until sufficient studies confirm extrahepatic obstruction.

Agranulocytosis: Agranulocytosis, although rare, has been reported. Patients should be observed regularly and asked to report at once the sudden appearance of sore throat or other signs of infection. If white blood counts and differential smears give an indication of cellular depression, the drug should be discontinued, and antibiotic and other suitable therapy should be instituted.

Because most reported cases have occurred between the fourth and the tenth weeks of treatment, patients on prolonged therapy should be observed particularly during that period.

A moderate suppression of total white blood cells, sometimes observed in patients on 'Thorazine' therapy, is not an indication for discontinuing 'Thorazine' unless accompanied by other symptoms.

Potentiation: 'Thorazine' prolongs and intensifies the action of many central nervous system depressants such as anesthetics, barbiturates and narcotics. Consequently, it is advisable to stop administration of such depressants before initiating 'Thorazine' therapy. Later the depressant agents may be reinstated, starting with low doses, and increasing according to response. Approximately ¼ to ½ the usual dosage of such agents is required when they are given in combination with 'Thorazine'. (However, 'Thorazine' does not potentiate the anticonvulsant action of barbiturates. In patients who are receiving anticonvulsants, the dosage of these agents—including barbiturates—should not be reduced if 'Thorazine' is started. Rather, 'Thorazine' should be started at a very low dosage and increased, if necessary.)

Hypotensive Effect: Postural hypotension and simple tachycardia may be noted in some patients. In these patients, momentary fainting and some dizziness are characteristic and usually occur shortly after the first parenteral dose, occasionally after a subsequent parenteral dose—very rarely after the first oral dose. In most cases, prompt recovery is spontaneous and all symptoms disappear within ½ to 2 hours with no subsequent ill effects. Occasionally, however, this hypotensive effect may be more severe and prolonged, producing a shock-like condition.

In consideration of possible hypotensive effects, the patient should be kept under observation (preferably lying down) for some time after the initial parenteral dose. If, on rare occasions, hypotension does occur, it can ordinarily be controlled by placing the patient in a recumbent position with head lowered and legs raised. If a vasoconstrictor is required, 'Levophed' and 'Neo-Synephrine'★ are the most suitable. Other pressor agents, including epinephrine, are not recommended because phenothiazine derivatives may reverse the usual elevating action of these agents and cause a further lowering of blood pressure.

Antiemetic Effect: The antiemetic effect of 'Thorazine' may mask signs of overdosage of toxic drugs and may obscure diagnosis of conditions such as intestinal obstruction and brain tumor.

Dermatological Reactions: Dermatological reactions have been reported. Most have been of a mild urticarial type, suggesting allergic origin. Some appear to be due to photosensitivity, and patients on 'Thorazine' should avoid undue exposure to the summer sun.

Neuromuscular (Extrapyramidal) Reactions: With very high doses of 'Thorazine', as frequently used in psychiatric cases over long periods, a few patients have exhibited neuromuscular (extrapyramidal) reactions which closely resemble parkinsonism. Such symptoms are reversible and usually disappear within a short time after the dosage has been decreased or the drug temporarily withdrawn. These reactions can also be controlled by the concomitant administration of an anti-parkinsonism agent (see *Physicians' Desk Reference*). Depending on the severity of the symptoms, suitable supportive measures such as maintaining a clear airway and adequate hydration should be employed. When 'Thorazine' is reinstituted, it should be at a lower dosage.

Lactation: Moderate engorgement of the breast with lactation has been observed in female patients receiving very large doses of 'Thorazine'. This is a transitory condition which disappears on reduction of dosage or withdrawal of the drug.

CONTRAINDICATIONS

'Thorazine' is contraindicated in comatose states due to central nervous system depressants (alcohol, barbiturates, narcotics, etc.) and also in patients under the influence of large amounts of barbiturates or narcotics.

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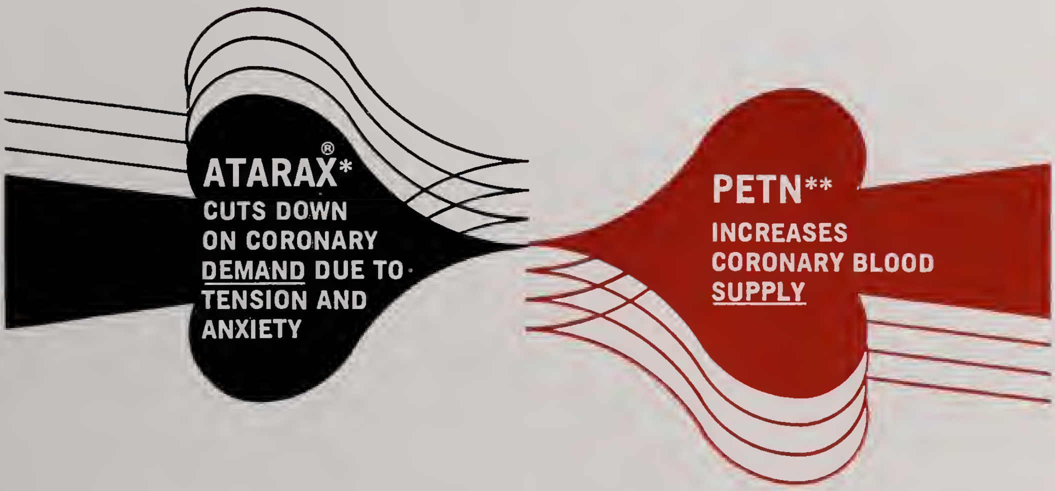
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1. Clark, T. E., and Jochem, G. G.: Angiology **11**:361 (Aug.) 1960.

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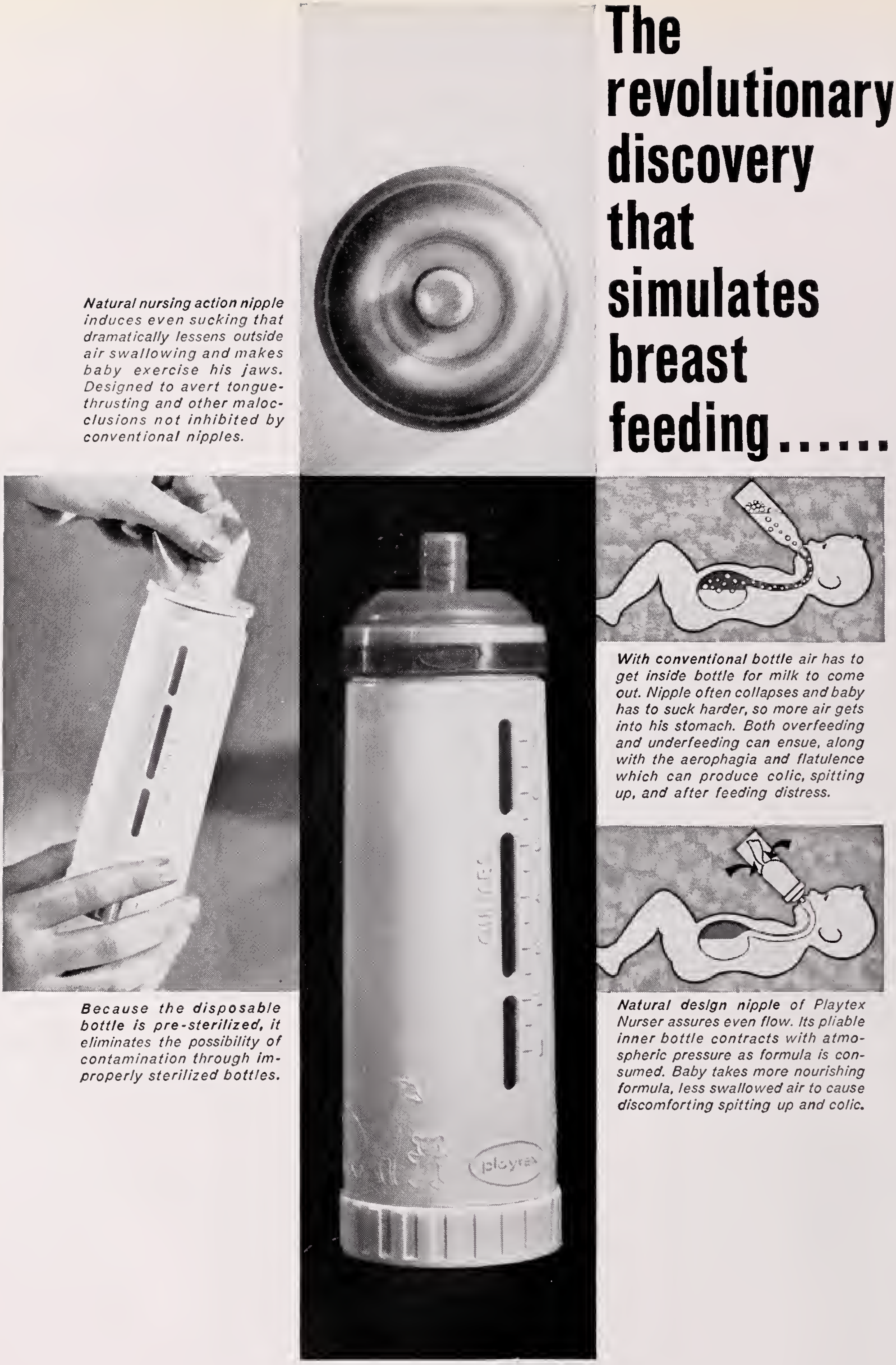

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***Because the disposable bottle is pre-sterilized,** it eliminates the possibility of contamination through improperly sterilized bottles.*

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***Natural design nipple** of Playtex Nurser assures even flow. Its pliable inner bottle contracts with atmospheric pressure as formula is consumed. Baby takes more nourishing formula, less swallowed air to cause discomforting spitting up and colic.*

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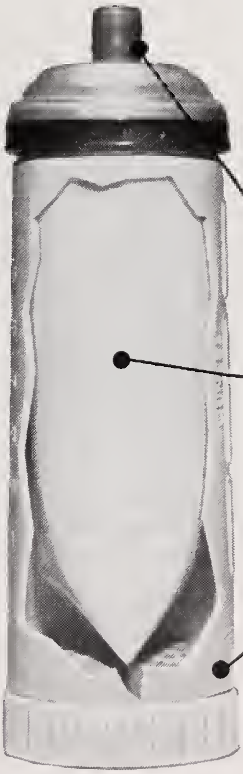
Because the outside atmospheric air pressure contracts the soft inner bottle, the formula is withdrawn more naturally than with conventional rigid baby bottles. There is no vacuum formation to set up air blocks. The natural-action nipple induces sucking which makes for less air swallowing, and less spitting up—and in so doing, promotes the healthful mouth-jaw exercises the mother's breast provides.

Colicky infants, problem feeders and premature babies especially will benefit from the breast-like action of the new Playtex Nurser. The fact that the bottle is pre-sterilized and disposable will appeal to mothers who do not breast feed their babies. The fact that the Nurser does so closely simulate breast feeding will be similarly important to the health of any baby fed with it.


New natural action nipple.
Soft disposable inner bottle is pre-sterilized. Easily inserted into bottle holder. Use once and throw away.
Bottle holder.

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Hasamal, with mild sedation, effectively relieves malaise and discomfort associated with acute infectious disease, such as colds, grippe, sinusitis, tonsillitis, and for earache, headache, and pain of arthritis, neuritis, neuralgia, dysmenorrhea, etc.

Where pain of increased intensity occurs, HASACODE, containing ¼ gr. codeine phosphate, and HASACODE "STRONG," containing ½ gr. codeine phosphate, provide prompt, effective relief.

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Each Filmtab represents:

Vitamin A	7.5 mg. (25,000 units)
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Pyridoxine Hydrochloride	5 mg.
Cobalamin (Vitamin B_{12})	6 mcg.
Calcium Pantothenate	20 mg.
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Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
Zinc (as sulfate)	1.5 mg.
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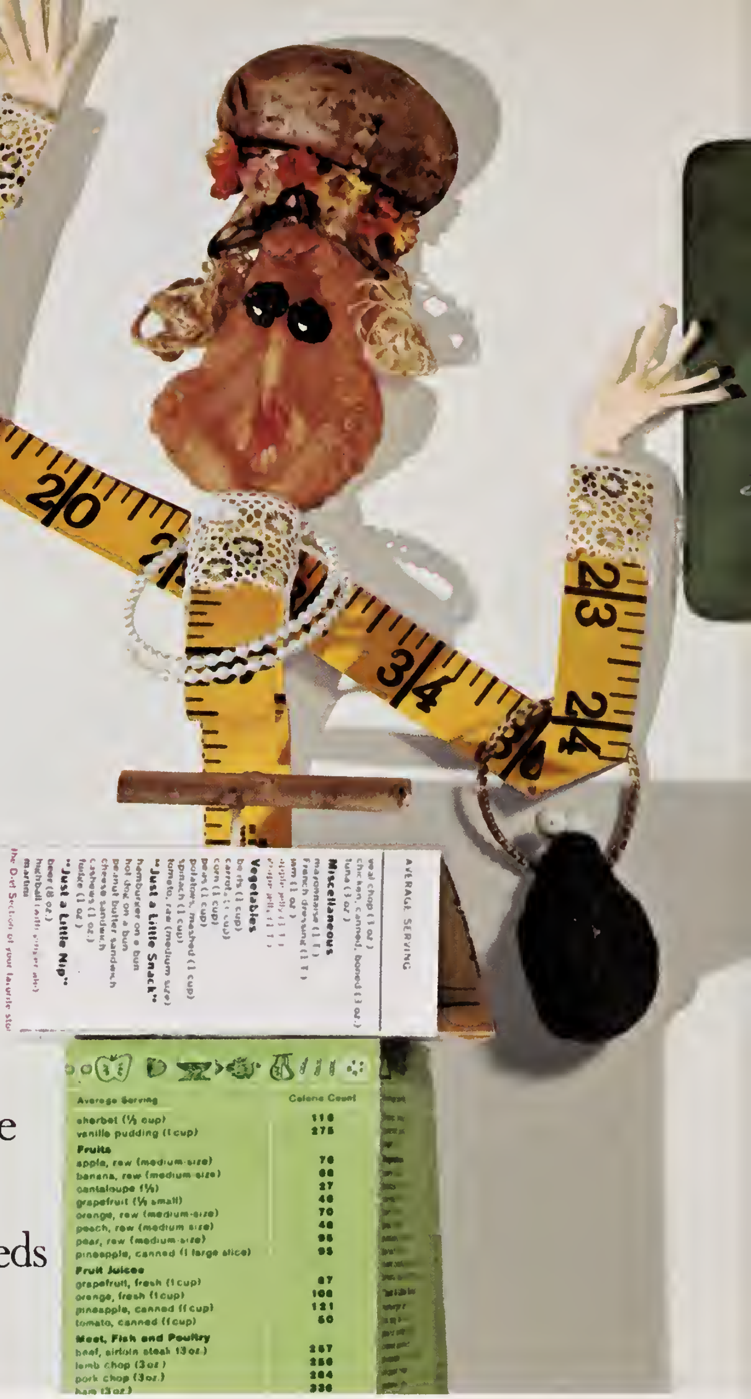
Average Serving
Calorie Count
sherbet (½ cup) 118
vanilla pudding (1 cup) 275
Fruits
apple, raw (medium-size) 76
banana, raw (medium size) 88
cantaloupe (½) 37
grapefruit (½ small) 46
orange, raw (medium-size) 70
peach, raw (medium size) 46
pear, raw (medium-size) 95
pineapple, canned (1 large slice) 95
Fruit Juices
grapefruit, fresh (1 cup) 87
orange, fresh (1 cup) 108
pineapple, canned (1 cup) 121
tomato, canned (1 cup) 50
Meat, Fish and Poultry
beef, sirloin steak (3 oz.) 257
lamb chop (3 oz.) 250
pork chop (3 oz.) 284
ham (3 oz.) 330

Her position on nutrition
Is taught in all the schools.
She's an oracle for others,
Yet, the first to break the rules.
While a mine of diet knowledge
(And, each lecture is a gem)
Poor Ramona from Pomona needs
some DAYALETS with M.

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Likes, dislikes, and time schedules never interfere with her lectures, doctor, just her diet. She could live in a grocery store and still eat poorly. While Dayalets-M can't replace self-discipline, it can help insure optimal nutrition. Tablets are tiny, potent, and Filmtab-coated. Patients like taking them.

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In colds
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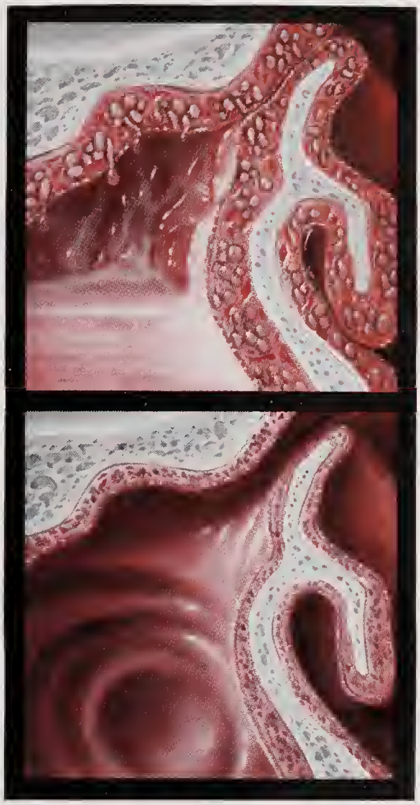

The clogged sinus
In sinusitis, the mucous membrane becomes hyperemic and edematous, lymph glands and goblet cells hyperactive. Ostium is closed by edema and secretions cannot drain freely.

The normal sinus
Magnified anatomy of a portion of maxillary sinus showing mucous membrane with cilia and lymph glands. Ostium is normal and patent.

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When there is nasal turgescence, tiny orifices of sinus ostia tend to clog. Neo-Synephrine nasal solutions and sprays reduce edematous tissues on contact to provide prompt relief. As turbinates shrink, obstructed sinus ostia open, drainage and breathing become freer and the boggy feeling of a cold disappears.

Delicate respiratory tissue and its natural defenses are not harmed by exceptionally bland Neo-Synephrine; systemic effects are nil; it does not sting. For years it has been recommended for prevention and treatment of sinusitis.[1-3] Repeated applications do not lessen effectiveness.

Available in plastic nasal sprays for adults (½%) and children (¼%), in dropper bottles of ⅛, ¼ or 1 per cent.

1. Grant, L. E.: Coryza and nasal sinus infections, **Clin. Med. & Surg.** 42:121, March, 1935. 2. Putney, F. J.: Sinus infection, in Conn, H. F. (Ed.): Current Therapy 1952, Philadelphia, W. B. Saunders Company, 1952, p. 110. 3. Simonton, K. M.: Current treatment of sinusitis, **Journal-Lancet** 79:535, Dec., 1959.

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Vitamin D	1,000 U.S.P. Units
Thiamine Mononitrate	10 mg.
Riboflavin	10 mg.
Niacinamide	100 mg.
Vitamin C	200 mg.
Pyridoxine Hydrochloride	5 mg.
Calcium Pantothenate	20 mg.
Vitamin B_{12}	5 mcg.

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'Theragran'® is a Squibb trademark

"nutrition…present as a modifying or complicating factor in nearly every illness or disease state"[1]

[1] Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958.

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell. W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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Each PHENAPHEN *capsule contains:*

Acetylsalicylic acid (2½ gr.)	162 mg.
Phenacetin (3 gr.)	194 mg.
Phenobarbital (¼ gr.)	16.2 mg.
Hyoscyamine sulfate	0.031 mg.

Also available:

PHENAPHEN with CODEINE PHOSPHATE ¼ GR. (16.2 mg.) Phenaphen No. 2

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Bottles of 100 and 500 capsules.

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1. Meyers, G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 53:1867, 1953.

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With *twice* the antacid content (.84 gms. of calcium carbonate and .13 gms. of magnesium carbonate) usually found

At substantially lower cost than all other leading antacid preparations

As an aid in the treatment of peptic ulcer, and for the prompt relief of acid indigestion, hyper-acidity, and accompanying heartburn

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BOOK REVIEWS

Williams Obstetrics, 12th ed. Nicholson J. Eastman and Louis M. Hellman. Price, $16.00. Pp. 1230, illustrated. New York: Appleton, 1961.

This new edition of "Williams Obstetrics" is in keeping with the high standards of the previous editions. Since its last publication, five years ago, many new concepts and advances have been made in obstetrics. This work has kept abreast of the times, and full consideration has been given to them in this twelfth edition.

Most noteworthy is the discussion of fetal physiology and its aberrations and fetal malformations. The section on hemolytic disease of the newborn with recommendations on the clinical management is very well done.

While the section on coincidental diseases in pregnancy has been expanded, the subject matter could still be better covered. The treatment of toxemia still places magnesium sulfate as the keystone of the general therapy. Many others now are turning to a more rapid stabilization with intravenous Apresoline and Veratrum derivatives. The end results seem to be as good with one method as another. since it seems that close, intelligent supervision is the main factor rather than the particular regimen that is followed.

In the section on prenatal care I would take exception to the advice that it is only necessary to check for sugar in the urine on the first few prenatal visits. I believe, and many others do, that if there is a latent diabetes, the greater load later in pregnancy may give us its first clue by showing the presence of sugar in the urine. Therefore, every patient's urine should be checked throughout pregnancy for sugar as well as for albumin.

The section on the psychiatric aspects of pregnancy and childbirth is excellent. As in previous editions, the section on operative obstetrics is adequate for medical students and general practitioners, but the technical and operative methods for more advanced study are better covered in other, more specialized textbooks.

In all, this book is recommended as one of the better standard textbooks, ideal for students and as a general reference book for all practitioners.

Joseph B. Sheffery, M.D.

Nursing Home Administration—Training Materials for administrators of nursing, board and mental hygiene homes for the aged. John D. Gerletti, Ed.D., C. C. Crawford, Ph.D., and Donovan J. Perkins, M.S. Price, $6.50. Pp. 472, with 11 illustrations. Downey, Calif.: Attending Staff Association, 1961.

"Nursing Home Administration" may be best described as an encyclopedia of unproven answers to problems encountered in the care of the aged. The authors refer to the book as a tool for training and for research use in connection with the management areas in nursing, boarding, and mental hygiene homes.

Content of the book came from a method analysis made by written workshop sessions in many cities of California. The 26,000 ideas collected were drawn out of the unrecorded experience of nursing home administrators, and related professional persons.

Funds for the project were provided from the 1961 general health grant from the U. S. Public Health Service to the California State Department of Public Health, and, finally, to the authors and other advisory task forces.

This tool is highly recommended to all who have any connection with the care of the aged, either in a private home or large institution, since the subject matter covers the field, with maybe the single exception of atomic bomb fallout shelters for the aged.

The authors and advisory task forces have accumulated a wealth of information which should go far toward answering many of the problems on the timely subject of care of our aged.

C. R. Ball, M.D.

Varicose Veins: A Practical Manual, 3rd ed. R. Rowden Foote, with the assistance of A. Gordon Dingley, M.A., M.Chir. (Cantab.), F.R.C.S. Price, $13.00. Pp. 356. Bristol, England: Wright, 1960. Baltimore: Williams & Wilkins, exclusive U. S. agents.

This book was first published in 1949, revised and reprinted in 1952; a second edition appeared in 1954, and a third in 1960. The author is a surgeon who confines his work solely to varicose veins. It is thus quite evident that some weight must be given to the opinions therein expressed, which represent a vast experience.

To anyone, be he surgeon, family physician, etc., this text could represent the Bible on varicose veins. It is thorough to the n^{th} degree, discussing in considerable detail the history, incidence, etiology, anatomy, physiopathology, diagnosis, treatment and complications, including the post-thrombotic syndrome, lymphedema, etc.

Although, as the author points out, some portions of the text are written in a dogmatic manner, this is his method of impressing the busy reader with the salient facts. I would recommend this text to anyone interested in the varicose vein problem.

Emmett Patrick Madigan, M.D.

(Continued on page 30)

NEW
comprehensive
digestant
with the
most
potent
enzyme
available
for
digestion of

—also unsurpassed potency for digestion of starch, protein and cellulose

—the *only* digestant with Lipancreatin,* proven superior to Pancreatin N.F.

—the *only* digestant with fat-splitting lipase activity 12 times as great as that of Pancreatin N.F.

When the question is digestion because of your patient's inability to handle fat, starch, protein or cellulose, you can provide dependable relief with COTAZYM-B, which contains the essential pancreatic enzymes lipase, trypsin and amylase, plus bile salts and cellulase. A daily dose of 6 COTAZYM-B tablets is sufficient to emulsify and digest 50 Gm. of dietary fat, and to digest all of the protein and starch in a typical diet (100 Gm. protein, 250 Gm. starch) and 480 mg. cellulose.

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Supply: Bottles of 48 tablets.

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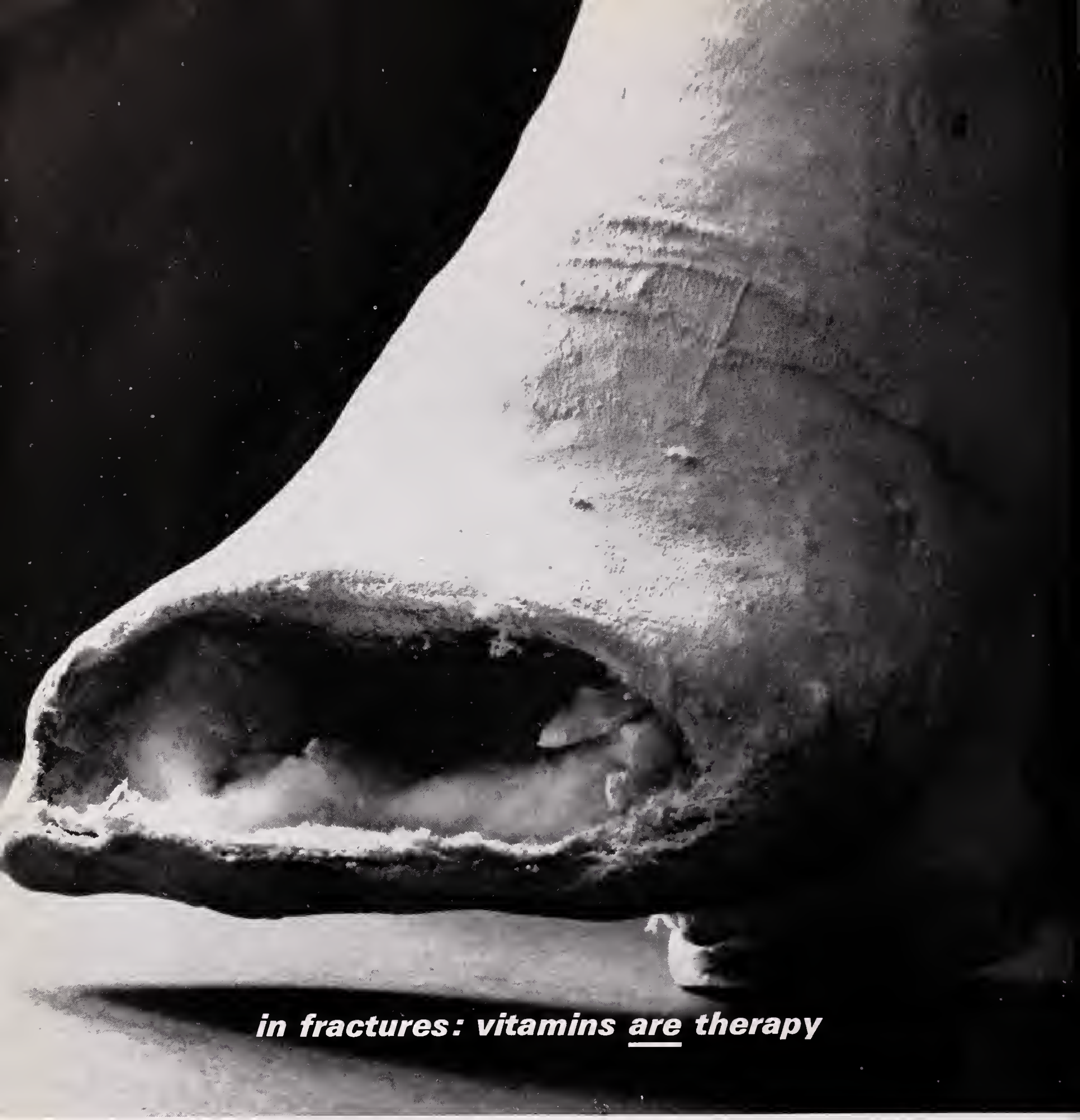
**The Significance of Lipancreatin* (Pancreatic Enzymes Concentrated 'Organon')

A product of original Organon research, lipancreatin provides *for the first time in digestant preparations a known, constant amount of fat-digesting lipase* in addition to trypsin and amylase. It surpasses in assayable digestive activity *all* presently available pancreatin preparations.



Few factors are more fundamental to tissue and bone healing than nutrition. Therapeutic allowances of B and C vitamins are important for rapid replenishment of vitamin reserves which may be depleted by the stress of fractures. Metabolic support with STRESSCAPS is a useful adjunct to an uneventful recovery. Supplied in decorative "reminder" jars of 30 and 100.

Each capsule contains:	
Vitamin B_1 (Thiamine Mononitrate)	10 mg.
Vitamin B_2 (Riboflavin)	10 mg.
Niacinamide	100 mg.
Vitamin C (Ascorbic Acid)	300 mg.
Vitamin B_6 (Pyridoxine HCl)	2 mg.
Vitamin B_{12} Crystalline	4 mcgm.
Calcium Pantothenate	20 mg.

Recommended intake: Adults, 1 capsule daily, or as directed by physician, for the treatment of vitamin deficiencies.

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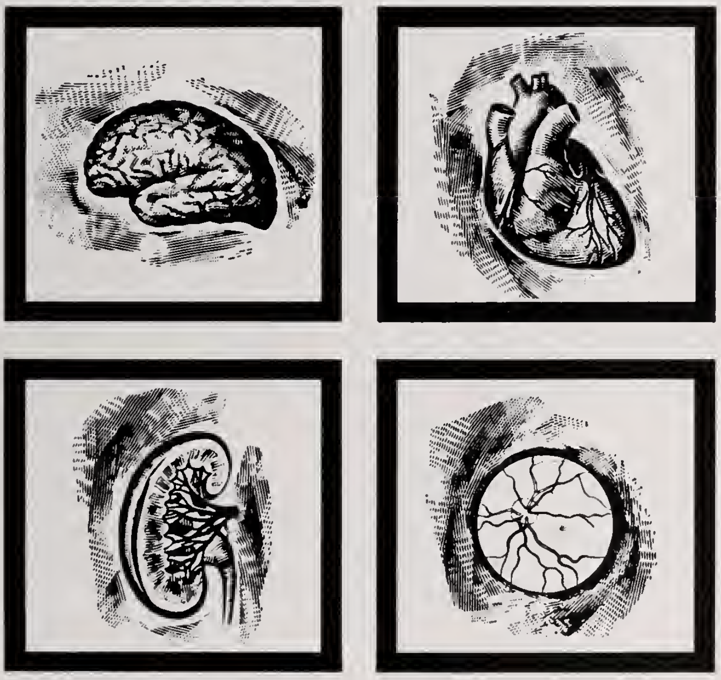

- **central action** inhibits sympathetic vasoconstrictor impulses, improves cerebral vascular tone
- **renal action** increases renal blood flow as well as urine volume and sodium and chloride excretion
- **cardiac action** prolongs diastole, decreases heart rate and cardiac output, thus easing strain on the myocardium
- **vascular action** blocks effects of pressor substances, enables blood vessels to dilate more fully

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Most hypertensive patients need more than one drug...but most hypertensive patients need only one Rx: **SER-AP-ES**®

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Book Reviews

(*Continued from page 26*)

Clinical Diagnosis by Laboratory Examinations, 3rd ed. John A. Kolmer, M.S., M.D., Dr. P.H., Sc.D., LL.D., F.A.C.P., F.A.C.D. (Hon). Price, $10.00. Pp. 543, with 158 illustrations and 18 differential diagnostic tables. New York: Appleton, 1961.

This volume is a slim successor to the second edition of 1949. The deleted material was largely technical and procedural and very few illustrations have survived. The outcome, which has been thoroughly rewritten, is a quick reference book for the desk. Extensive tables of all kinds (142 in number) are provided as well as reference lists that appear essentially up-to-date at the end of each chapter Discussion of disease correlations is strictly thumbnail and without pictures. The book is not practical for the occasional problem that arises in the small office laboratory.

Louis A. Craig, Jr., M.D.

Practical Pediatric Dermatology, 2nd ed. Morris Leider, M.D. Price, $13.75. Pp. 437, with 280 photographs and 15 drawings. St. Louis: Mosby, 1961.

This is a very commendable book that adequately fills the needs of pediatricians and other practitioners who see many children in their practice. The arrangement of the material and the abundant use of charts and tables make it easy for the physician to orient himself about a dermatologic problem. Descriptions are always lucid, and a profusion of good black and white illustrations adds to the value of the book. There is a short chapter on Basic Science Aspects and a useful Formulary with a guide on the technic and principles of therapy. This is the second edition of the book, which is in every respect up-to-date. It is a truly worthwhile addition to the daily reference library of the practitioner in the field of pediatrics.

Walter Teichmann, M.D.

A Synopsis of Ophthamology, 2nd ed. J. L. C. Martin-Doyle, M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.O. (Oxon). Price, $6.50. Pp. 249. Bristol, England: Wright, 1961. Baltimore: Williams & Wilkins, exclusive U. S. agents.

This concise volume presents in 26 chapters a short, comprehensive exposé of clinical ophthalmology. It is intended for medical students and general practitioners and can be recommended to them as a source of rapid information concerning some of the more common oculopathies. It is my opinion that it cannot be recommended to the advanced student of ocular disease as it is far too cursory and prosaic.

In its scope the book attempts to cover a great deal of the field of ophthalmology. Obviously, this cannot be done in short formats, such as Dr. Martin-Doyle's text.

I believe that this opus can best be used by those seeking an introduction into the field of ophthalmology.

Alfred Suarez, M.D.

Good-bye, Doctor Roch. André Soubiran. Translated by Helen Sebba. Price, $4.50. Pp. 331. Garden City, N. Y.: Doubleday, 1961.

This book was written by a French physician who has previously written books on the subject of medical history and novels with a medical background. The present book, while in the style of a novel, is actually an exposition of the horrible conditions that existed in an average French mental institution in 1952. The author describes the adventures and experiences of Dr. Roch, an ex-concentration camp inmate, who single-handedly tries to correct all the infamies visited upon the helpless, mentally ill by a lay administrator, who is more interested in the appearance of the hospital than in the welfare of the patients. In the end the dedicated doctor triumphs and the institution is changed into a hospital where the interest and welfare of the patient are the primary consideration.

There is a love story interwoven. The wife of a patient comes to the hospital to work as a volunteer and her main goal is similar to that of the good doctor—to improve the lot of the mentally ill. Toward the end it is revealed that Dr. Roch has actually fallen in love with her. He almost yields to temptation, but after wrestling with his conscience, desists. He then uses his efforts to get the patient discharged. The ex-patient and his wife move to the South of France and live happily together.

The book consists of three long chapters, an epilogue, and a section called Notes, in which the author documents the research which he did prior to writing the book. The first two chapters are rather wordy and tend to drag. There is a little more action to stimulate the interest in the third chapter.

I am acquainted with the physical structure of French mental hospitals, having seen them during World War II. The conditions described by the author faithfully mirror these hospitals. The care of patients he describes as primitive and cruel. Unfortunately, there are still some hospitals in the United States where similar conditions apply. This book could serve a useful purpose as a textbook for those who want to learn the ways in which the lot of the mental patient needs improving.

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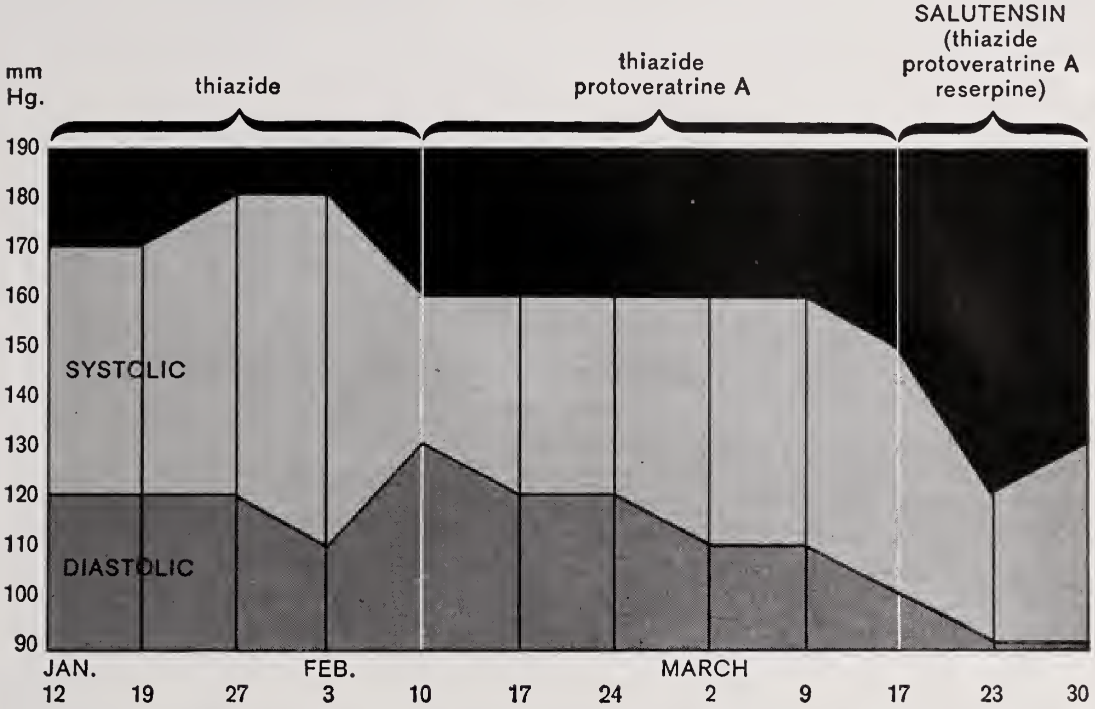
(Adapted from Spiotta, E. J.: Report to Department of Clinical Investigation, Bristol Laboratories)



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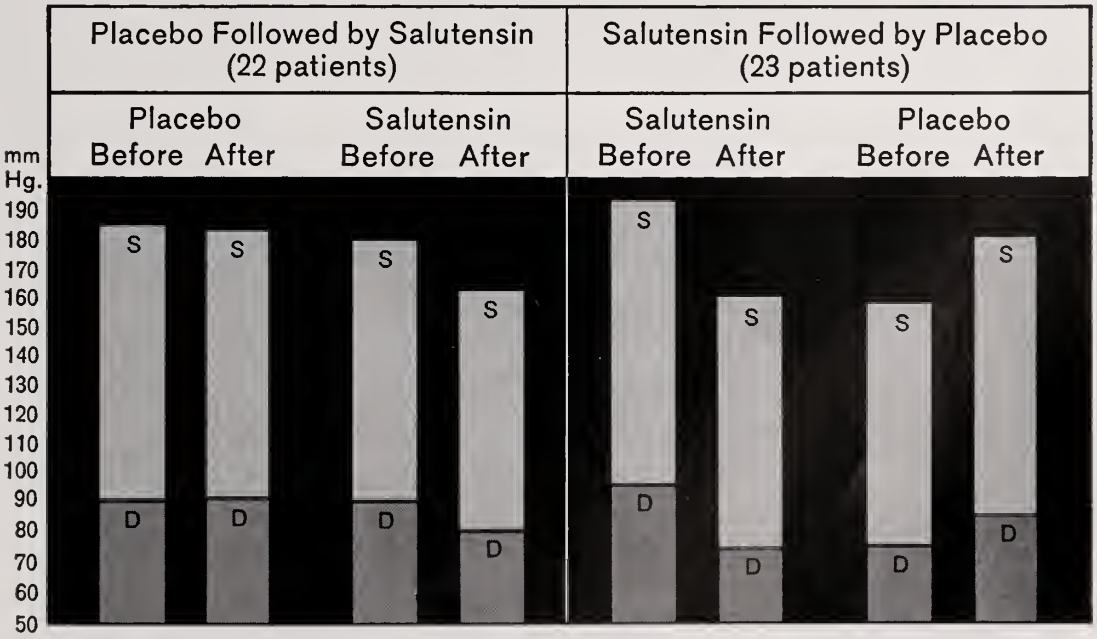

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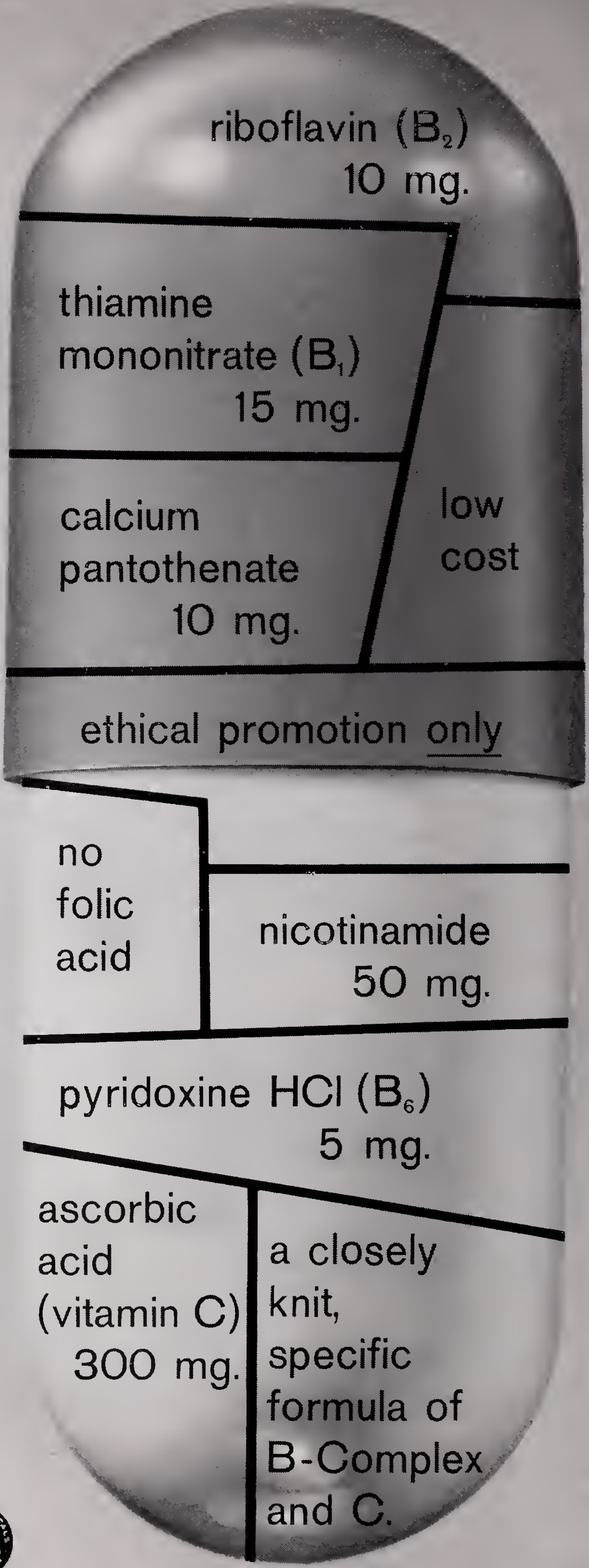

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January 1962 VOLUME XXXI • NUMBER 1

Lobotomy for Intractable Psychosomatic Disorders*

WALTER FREEMAN, M.D., Ph.D.
Los Altos, California

There is a dictum of Da Costa[1] concerning surgery in mental disorders: "I have never seen the slightest improvement in the mental condition brought about by any procedure seeking to remove the sensations that had anchored the attention. As I have stated elsewhere, all such attempts partake of the sort of wisdom that would lead one to tinker a weather-vane in the hope of altering the wind, or to attack a thermometer in order to regulate the temperature." Freeman and Watts[2] said, "Amen" and added: "If the trouble's in the head, why work on the belly?"

In the course of lobotomy operations primarily for emotional disorders during the past quarter century there have been a number of patients whose physical complaints were outstanding. One group consisted of the pain syndromes due to cancer, tabes, radiculitis, phantom limb, zoster and others. This group has been repeatedly described. The greater the emotional component in such cases the better the relief, but with danger of downgrading the personality. Other patients experienced pain or discomfort of nagging character or worse, with no detectable organic cause. These poor hypochondriacs are ever with us, but lobotomy is seldom indicated and enjoys only a limited success. The patients as a rule function better after lobotomy although they continue to complain. In a third group, physical complaints are frequently the presenting symptoms in serious mental disorders such as schizophrenia and agitated depression. It seems as though the sensations were equivalent to somatic hallucinations. I recall a lady (case 13) whose preoccupation with her digestive tract dominated her existence for years on end. She described the course of her food from the mouth to the stomach, from the pylorus through the small intestine to the cecum, and thence around the abdomen through the colon. "And, Doctor," she said, with wide-eyed solemnity and expressive gesture, "my rectum goes 'puh! puh! puh!' "

There are also, as in this series, some patients whose complaints are accompanied by structural changes of such severity that life itself is threatened; others to whom life is a burden and disability complete in spite of medical management.

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* In a series of more than 3,000 frontal lobotomies performed by the author and his associates over the past quarter century, certain psychosomatic disorders of disabling or even life-threatening severity have been encountered. Dr. Freeman, formerly Professor of Neurology, George Washington University School of Medicine, Washington, D. C., draws upon his large experience, with prolonged follow-up, showing that: "If the trouble's on the head, why work on the belly?" The first paper on lobotomy published in the United States appeared in the Medical Annals of the District of Columbia: Prefrontal lobotomy in agitated depression: report of a case (Freeman and Watts), 1936, 5, 326 (Ed.).

Sometimes such patients are helped by psychotherapy; probably the majority of these serious conditions are treated surgically. Even then the complaints continue. One of our earliest patients, case 9, commenced her surgical career with appendectomy at the age of 16 and complained so bitterly of continued pain that some 12 to 18 abdominal operations were subsequently carried out, with what amounted to progressive evisceration. When we (Watts and I) saw her at the age of 40 she had spent the preceding 2 years in bed because of agonizing pain in the back and limbs. Examination showed swollen knuckles and knees, with flexion contractures; and roentgenograms of the spine showed pronounced lipping. There was undoubtedly a considerable degree of osteoarthritis present. The patient's hysterical temperament was foremost in the clinical picture, however, and in view of the complete and prolonged disability prefrontal lobotomy was undertaken in November, 1936. The results were spectacular. On the second postoperative day we straightened her legs. She cried out with pain, and crepitus was audible, but on the fourth day she got out of bed and walked for the first time in two years. She returned to work in six months and continued until retirement 20 years later, then managed her home until her death in 1959. She still had her pain and her arthritic joints but was no longer disabled by them.

Gastrointestinal Disorders

In the borderland between hypochondriacal and psychosomatic disorders the gastrointestinal tract probably occupies first place. Between the dramatization of the alimentary canal described above and the occurrence of peptic ulcer lies a spastic condition, sometimes of the pylorus, sometimes of the colon. Case 301 concerned a middle-aged woman weighing only 79 pounds, a confirmed dyspeptic of 20 years' duration. Linked with depression this dyspepsia was threatening her life. Watts performed prefrontal lobotomy under local anesthesia while I conversed with the patient, resting my hand lightly upon her scaphoid abdomen where there was a readily palpable and movable small mass. The patient complained more of the abdominal discomfort than of the surgical manipulations. The laments continued until the final incision in the second frontal lobe was made, whereupon they ceased and the mass disappeared. Convalescence was rapid. She doubled her weight, and, though sharp-tongued, was able to manage her home through the following 13 years without recurrence.

Instances of spastic colon have been numerous. Case 95 was 37 years old when transorbital lobotomy was performed in 1948. She had been married for ten years, with no children. Following lobotomy there was a period of carelessness and indolence, but a move was made to the South, followed by renewed interest in office work when her income supported her husband through financial stress. Then, after the age of 40 she bore two children. Family photographs arrive each Christmas and show the patient a pleasant and capable housewife. She is subject to diarrhea only when provoked by her sister. Formerly any stress would bring it on.

More threatening is ulcerative colitis. Instances of this disorder treated by lobotomy have been reported in this country[3] and abroad.[4, 5] The latter authors showed by barium enema that subsequent to operation the diameter of the colon increased and the haustral markings returned.

Case 2,662 was a 35-year-old woman of part-Indian ancestry, an Okie who married into an aristocratic California family and determined to make good. She was a rigid perfectionist who drove herself and everyone else to and beyond the limit of endurance. Five abdominal operations in seven months depleted her, and pneumonia nearly terminated her life. She lost from 142 lbs. to 98, vomited blood, passed blood by rectum, and required 4 units of blood to prepare her for operation (figure 1–A). The hemoglobin was 3.8 Gm., and the red blood cells numbered 1.2 million per cu. mm. She was semistuporous,

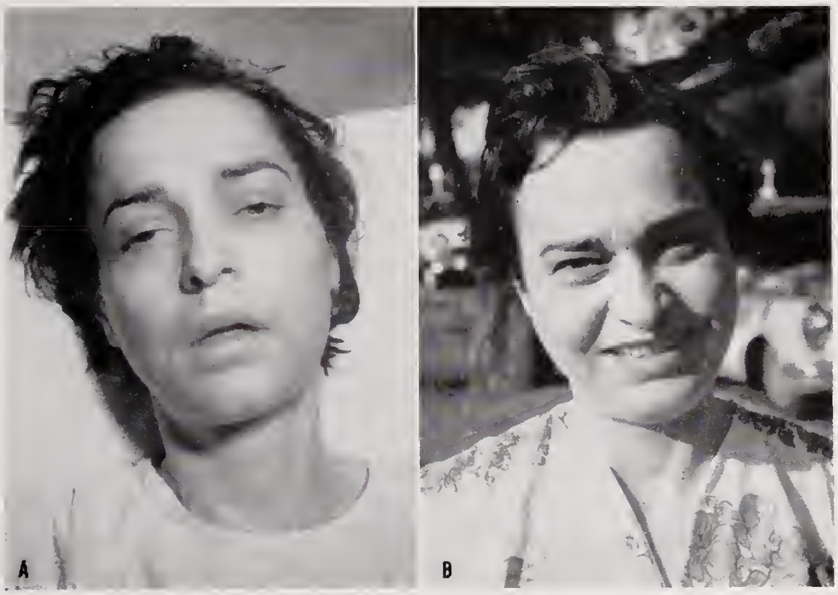

FIG. 1. Case 2,662, ulcerative colitis: (A) Before transorbital lobotomy, near death from exsanguination; (B) 22 days after lobotomy. ("I don't know I've got a stomach any more except that it's always empty.")

with a blood pressure of 84/48. Transorbital lobotomy was performed as a life-saving procedure on March 17, 1960. Three days later she was animated, smiling and laughing, eating well and passing soft, formed stools. When photographed April 8 (figure 1–B) she stated that she didn't know she had a stomach any more except that it was always empty. Her weight had risen to 124 pounds. Her colon gave no trouble, and she passed no blood or mucus. She resumed her housekeeping after a period of indolence and crossness but could "afford to see the doorknobs unpolished and the ashtrays unemptied." Her normal vivid personality returned and her mother-in-law reported that she "is now very much the girl my son married and we're delighted to have her back in the family." A year later she was enjoying good health and vigorous activity.

CARDIOVASCULAR DISORDERS

Hypertension, which is so common in middle-aged women, is not always reduced by lobotomy, but the symptoms such as headaches, flushing, palpitation and giddiness tend to disappear. In case 26 the patient had been hypertensive since 1922, and in 1937 the blood pressure had reached 240/120 during her agitated depression. Following prefrontal lobotomy it ranged between 160 and 180 systolic for 9 years and in the tenth rose to 250/130. She kept house, nevertheless, until she suffered a stroke in 1949, succumbing to a second one in October, 1950. A similar patient is still keeping house for her sister 23 years after lobotomy.* The relationship between emotional tension and high blood pressure has often been noted. Presumably, however, once the arterial pressure passes 200 for any considerable length of time it becomes a stable reaction little influenced by the profound emotional change that occurs following lobotomy. Groen,[6] however, reported recovery in a case of malignant hypertension.

Cardiac valvular disease has complicated a severe neurosis or psychosis in several cases. A young man (case 84) with a severe obsessive tension state suffered reactivation of subacute bacterial endocarditis when treated by electroshock. He continued to throw off emboli following his first lobotomy in June, 1941. This operation was unsuccessful, as were 2 subsequent ones. The fourth one, in April 1942, produced great inertia, with slow convalescence, but the patient was cured of his endocarditis with modest amounts of sulfonamides, his heart regained normal rhythm, and there were no further emboli. Weight, blood count and exercise tolerance have all increased, and he is at home 18 years after his lobotomies. In another patient (case 10) with rheumatic valvular disease and auricular fibrillation associated with an acute catatonic stupor the heart resumed normal rhythm on the third day after lobotomy. When relapse of the mental state occurred six weeks after operation, fibrillation recurred and the patient died in congestive failure four months after lobotomy.

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* This woman died of myocardial insufficiency in April, 1961.

Severe myocardial symptoms can sometimes be relieved by lobotomy. Case 1,193 was a 52-year-old woman, troubled by myocardial insufficiency with chest pain over a period of 12 years. She became addicted to morphine and barbiturates and obtained little relief from stellate block. The swelling of her left arm gave her intense discomfort. She was agitated, unable to sleep, and moaned and groaned constantly. Transorbital lobotomy was carried out in September, 1952 under local anesthesia. During operation the patient ceased complaining, and at the end was able to sit up with assistance for her photograph. The pain was abolished and she was able to leave the hospital in five days. She resumed housework with only occasional pains in her chest and left arm, particularly when frustrated. She died in congestive failure in June, 1960, nearly eight years after what appeared to be a desperate, treatment-resistant case of angina pectoris.

In case 288, a 69-year-old man with fibrillation and electrocardiographic changes strongly suggestive of myocardial disease suffered also from agitated depression. Lobotomy was performed in January, 1945, and he returned to work in April. The following February he suffered a fractured hip and spent four months in the hospital. He survived a 90-minute operation for nailing of the hip, a perirectal abscess, a decubitus ulcer, and hypostatic pneumonia. The fibrillation continued until his sudden death in July, 1947.

RESPIRATORY DISORDERS

Bronchial asthma is often cited as a psychosomatic disorder in which the emotional elements are outstanding. Two patients, cases 272 and 336, experienced alternating and almost rhythmic attacks of asthma and catatonia. Following lobotomy in the former the schizophrenic process continued but the asthmatic attacks ceased, whereas in case 336 the patient recovered from his catatonia but died a year later in his first postoperative paroxysm of asthma. In case 366 the schizophrenic process receded following lobotomy, but the patient developed explosive asthmatic attacks. These, however, subsided within a year. Patient 273 died in an asthmatic attack 2 years after transorbital lobotomy for a severe obsessive-compulsive neurosis. She had previously undergone thoracoplasty for tuberculosis, with subsequent asthmatic attacks.

Pulmonary tuberculosis has a psychic element, and lobotomy in tuberculous psychotic patients has usually been beneficial. Cheng, Tait and Freeman[7] reported a series of 57 patients in a mental hospital who gained weight, rested well and could coöperate in major procedures designed to promote healing. The roentgenograms improved in 84 per cent, and the sputum became negative. We pointed out the dangers of shock therapy in similar patients. It was possible to compare the surgical results with those obtained by tranquilizers. These doubly sick patients fared better with lobotomy. Freeman and Watts[8] stated: "Prefrontal lobotomy neither prevents nor cures tuberculosis but it has a definite place in the treatment of the disease when it occurs in an overactive psychotic individual."

OTHER SYNDROMES

Cutaneous eruptions with intolerable itching and compulsive scratching have been substantially relieved in two patients who were lobotomized for accompanying agitated depression. Distressing tinnitus loses its harassing character in most instances, but in one completely deaf schizophrenic patient the roaring noises continued unabated. Epilepsy is considered to have a psychic component. Lobotomy has little effect on the frequency of seizures, although a few patients have been free from them for a period of years.[9, 10] On the other hand, seizures occur in 15 to 20 per cent of patients subjected to major prefrontal lobotomy, whereas following transorbital lobotomy their incidence is about 1 per cent. Rheumatoid arthritis has become stationary, although the deformities remain, and the patient is no longer preoccupied with troubles. In anorexia nervosa lobotomy may be life-saving.

DISCUSSION

Most of the reports on psychosomatic disorders treated by lobotomy are as anecdotal as the above. Peptic ulcer,[11] ulcerative colitis,[3, 5] malignant hypertension,[10] neurocutaneous syndromes,[12] rheumatoid arthritis,[12] anorexia nervosa,[13] and other syndromes have been dramatically relieved by lobotomy when other measures failed.

The first author to describe such results in psychosomatic disorders was Sargant[12] in 1951. According to him, the operation may serve to break up abnormal psychologic conditioning such as the reflex production of fear by palpitations; it may also relieve constant preoccupations and increasing anxiety about symptoms. Golla[14] concluded that the reduction in self-consciousness was responsible for the altered outlook on the future. "They no longer look forward with fear and horror to the continuance of their torment. Something has occurred that frees them from apprehension of the future. They have lost the power of representing their personality in time as an enduring entity, whilst still retaining the power to plan ahead in their business or social relations."

The phrase used by Arnot[15] to describe patients responding well to lobotomy is "those suffering from a fixed state of tortured self-concern." This applies to all patients suffering from psychosomatic disorders. The anxiety component has been studied in a series of papers by Lesse.[16, 17] He has sat with 34 patients during operations under local anesthesia for periods up to 5 hours, controlling all but two through their dependence upon him. He observed four components in anxiety: motor, affectual, verbal and autonomic. Of the 34 patients, all experienced definite decrease in anxiety during or just minutes following lobotomy; 29 showed lessening of the motor component, while in 25 the affectual component was ameliorated and in 20 the verbal content was changed. More extensive incisions were required to abolish the affectual component, and still more to abolish the verbal component. The other (psychiatric) symptoms did not begin to fade until the anxiety was first significantly ameliorated. Lesse used the phrase "decompression of anxiety" in dealing with the ancillary symptoms. This is the outstanding effect of lobotomy. Franks et al[18] have shown the role of anxiety in psychophysiologic reactions and their relief after lobotomy.

SIDE-EFFECTS

Lobotomy has endured adverse, often hostile and unwarranted criticism because of the supposed harmful effects upon the personality of the patient. Part of this is due to operations upon emotionally deteriorated patients, since they have passed beyond help because of their severe and chronic mental illnesses. Part of the criticism was justified because extensive lobotomy severed too many frontal lobe connections. With experience it has been shown that limited lobotomies can bring peace of mind, health of body, and return of normal activity even in professional careers. Lobotomy does not affect intelligence nor memory, but only the attitude of the patient toward himself and his discomfort. There is a risk in lobotomy, as in any operation on the brain, of hemorrhage resulting in death or in drastic personality change, and of seizures, but in recent years these tragedies have been reduced to the order of two in 100.

SUMMARY

Psychosomatic disorders of various kinds yield to methods that reduce anxiety. In the most

(Continued on page 64)

Determinants of Acceptance to Education and Utilization of Services for Cancer Detection and Care among Low-income Groups

HAROLD H. WHITTED, M.D., M.P.H.

Assistant Professor of Preventive Medicine and Public Health, Howard University College of Medicine

The District of Columbia in 1959 recorded 8,700 resident deaths, and of this number, 1,458 or 17 per cent were due to malignant neoplastic diseases.[1] An almost identical percentage occurred in 1960. How many of these deaths could we have prevented? Are we utilizing all the skills and techniques in cancer detection to our best advantage? How effective is the American Cancer Society, District of Columbia Division, as a source of knowledge about cancer? The Cancer Society was desirous of obtaining information relating to these factors, and with this interest in mind, a grant for this study was made to the Department of Preventive Medicine and Public Health of the Howard University College of Medicine.*

One of the most important contributing factors toward the delay in time between early detection and treatment of cancer patients is communication. Formidable obstacles contributing to this delay in which professional services are being used are many. Just to mention a few are the educational level of the people to be reached, the socioeconomic structure of our society, and the fear of detection of the disease because of the known suffering and hopelessness in so many instances. As long as these factors persist there will always be a gulf in achieving early detection and maximum treatment. Although much has been accomplished, there still exists an overwhelming amount of undetected cancer. In 1959, about 450,000 new cases of cancer were diagnosed for the first time.[2]

Many discussions have been held on the subject of how to conquer this "resistance."

This study was concerned with:

1. Channels of communication open for transmission of health information, especially information concerning cancer, to a "hard-to-reach" group, handicapped by limited education and socioeconomic status.
2. The nature of the information which needs to be transmitted.
3. The role of the American Cancer Society, District of Columbia Division, as a source of effective knowledge about cancer.

Materials and Methods

Three hundred Negro patients attending Freedmen's Hospital were selected. Two hundred attending the Tumor and Cancer Clinic during the specified periods (both malignant and nonmalignant diagnosed patients were included) and 100 nonmalignant cases admitted to the hospital were interviewed.

The specific categories of patients interviewed were as follows:

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* The complete report with detailed information is available from the American Cancer Society, District of Columbia Division, Inc., Washington, D. C.

1. Fifty patients with a cancer diagnosis in 1959.
2. Fifty patients with cancer diagnosis in the clinic between 1955 and 1958.
3. Fifty clinic patients with nonmalignant diagnosis in 1959.
4. Fifty patients with a nonmalignant diagnosis in the clinic in the period between 1955 and 1958.
5. One hundred patients admitted to the hospital from the beginning of 1960, as ward-pay or tax-eligible with nonmalignant diagnoses, were included. They were chosen with age and sex distribution similar to those in the categories above.

The choice of respondents from the eligible list was made by the interviewer. Every other patient was selected. A total of 55 alternate substitutions were made in the respective categories.

Freedmen's Hospital was chosen because it is a Government-supported teaching institution; its proximity to the Medical School makes it easily accessible; and it is located in a low-income area, even though its patients come from all over the City.

The patients were never told that the American Cancer Society was the sponsor of the interview.

The medical social worker in the Tumor and Cancer Clinic interviewed those in the clinic; two other medical social workers interviewed the other patients. Interviewing began on April 28, 1960 and ended on October 14, 1960. The average length of the interview was one hour.

The questionnaire was designed to produce the detailed information required by the Specific Objectives. One section was asked only of clinic patients with cancer diagnoses.* The first two categories, which included patients with cancer diagnoses in 1959 and those diagnosed in the clinic between 1955 and 1958, have been treated in the tables as one group. The same is true of those with nonmalignant diagnoses for the same periods.

CHARACTERISTICS OF THE RESPONDENTS STUDIED

In order to furnish some information on certain of the characteristics of the respondent groups only the most important are mentioned at this time. The largest single concentration of subjects in each of the three groups was found in the age group 45–64 years. A higher percentage of the cancer patients were in the group 65 years of age and over. Approximately three-fourths of the cancer-diagnosed and nonmalignant clinic patients were females. In contrast, 58 per cent of the hospital admission patients were males. For each of the groups the largest percentage of respondents were from families with less than $3,000 yearly income. The largest percentages of all groups attended high school or grammar school. The cancer-diagnosed patients showed the highest percentage of grammar school graduates and next to the highest of high school graduates. However, only a few cancer-diagnosed patients had any added schooling after finishing their basic education.

RESULTS

Many factors still operate to impede progress in the prevention of disease. These same factors are even more crucial in the early diagnosis of cancer. Health services and physicians' services are paid for in time and money. Unfortunately, too many people avail themselves of these services only when they think "something is wrong."

This was particularly true in this study, with 78 per cent of cancer patients giving that reply. Sixty-two per cent of the nonmalignant patients and 63 per cent of those with hospital admissions said they went because they "thought something was wrong." The small percentages who said they went for a routine check-up are significant (table 1). Similarly, in 1955 the Cancer Society reported that a larger proportion of respondents had a cancer examination because they felt sick rather than as a precautionary measure.[3]

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* Categories 1 and 2 of sample.

TABLE 1

Percentage Distribution of Subjects' Reasons for Going to Private Physician, Medical Specialist or Clinic

Reasons	Category		
	Cancer Dx-Clinic* 1959, 1955–58	Nonmalignant Dx Clinic—1959, 55–58	Hospital Admissions Nonmalignant 1960
Because you thought something was wrong	78	62	63
For a routine check-up	7	16	14
For some other reason	15	22	23

* Cancer Diagnostic Clinic.

When cancer-diagnosed patients first thought something was wrong there was a significant delay in those waiting of about two months. The percentage was also smaller for cancer patients who went in about two weeks than for the two nonmalignant groups. They were the same for cancer patients who waited over two months as in the nonmalignant categories, 40 per cent for both (table 2).

TABLE 2

Percentage Distribution of Subjects' Waiting Period before Seeking Help When Something Was Wrong

Waiting Period	Category		
	Cancer Dx-Clinic 1959, 1955–58	Nonmalignant Dx Clinic—1959, 55–58	Hospital Admissions Nonmalignant 1960
About 1 week	32	35	49
About 2 weeks	14	16	16
About 1 month	14	9	7
About 2 months	19	11	15
About 6 months	8	13	12
About 1 year	8	3	—
About 2 years; about 5 years; over 5 years	5	13	1

Patients who indicated that they had waited more than a month were asked the reason for the delay. It is significant that 42 per cent of the cancer patients said they "did not think it was serious." The next largest groups stated it was "not giving much trouble" and "fear of a doctor." The clinic nonmalignant patients said it was "not giving much trouble," "did not think it was serious," or admitted negligence. The largest percentage of hospital admissions used self-treatment, said they knew the diagnosis or could not afford a doctor (table 3).

TABLE 3

Percentage Distribution of Subjects' Reasons for Waiting More Than a Month

Reasons for Waiting	Category		
	Cancer Dx-Clinic 1959, 1955–58	Nonmalignant Dx Clinic—1959, 55–58	Hospital Admissions Nonmalignant 1960
Not giving much trouble	26	50	10
Negligence	9	16	10
Didn't think it serious	42	20	10
Fear of doctor	14	7	10
Self-treatment; knew diagnosis; couldn't afford doctor	9	7	60

TABLE 4

*Percentage Distribution of Subjects' Symptoms**

Symptoms	Category		
	Cancer Dx-Clinic 1959, 1955–58	Nonmalignant Dx Clinic—1959, 55–58	Hospital Admissions Nonmalignant 1960
A lump or knot	43	44	5
Bleeding	24	19	15
Pain	40	23	49
Sore that would not heal	—	1	4
Cough	5	1	10
Loss of appetite	9	2	26
Loss of weight	13	1	15
General fatigue	7	1	17
Other symptoms not related to cancer	21	24	35
TOTAL	162	116	176

* Multiple responses, hence totals are greater than 100 per cent.

Among the important cancer symptoms, a lump or knot was mentioned by the largest percentage of cancer patients and nonmalignant clinic patients. Pain was listed almost as frequently by cancer patients. Twenty-four per cent mentioned that they had bleeding. These symptoms can be indicative of a far-advanced cancer. Many of these undoubtedly have delayed for some time. Twenty-three per cent of the nonmalignant clinic patients stated that they had pain and other symptoms not related to cancer. The largest group of hospital admissions had pain and other symptoms not related to cancer (table 4).

Data on whether or not they thought the condition might be cancer before seeking help show that a majority in all categories said "No." This was true of 71 per cent of cancer patients, 64 per cent of clinic nonmalignant patients, and 80 per cent of hospital admissions. It should be noted that a higher percentage of the clinic nonmalignant patients than those with a cancer diagnosis said that they thought it might be cancer (table 5).

TABLE 5

Percentage Distribution of Subjects' Thinking That Condition Might Be Cancer

	Category		
	Cancer Dx-Clinic 1959, 1955–58	Nonmalignant Dx Clinic—1959, 55–58	Hospital Admissions Nonmalignant 1960
Might be cancer	17	27	12
Might not be cancer	71	64	80
Don't know	12	9	8

Those patients who had been told by a clinic doctor that they had a growth, a tumor, or a cancer were then asked what the doctor had told them about their condition. The great majority of all patients replied that immediate treatment for the condition was recommended (table 6).

These data point up several factors. One of the most important is the effect of delay in seeking diagnosis and care. There was a delay of at least two months in both cancer and nonmalignant groups in seeking treatment after symptoms indicating cancer might be present. Many cancer patients did not think the condition was serious even after they had a lump, a "knot," or bleeding. This attitude obviously reflects a lack of health knowledge and no sensitization to cancer.

TABLE 6

Percentage Distribution of Subjects' Information Received Concerning Condition

Information	Category		
	Cancer Dx-Clinic 1959, 1955–58	Nonmalignant Dx Clinic—1959, 55–58	Hospital Admissions Nonmalignant 1960
Condition not serious, no treatment indicated	1	18	—
Condition should be watched, no treatment advisable at this time	—	18	- -
Immediate treatment for condition recommended	98	57	73
Something else	1	7	27

Knowledge about voluntary health agencies. When asked what voluntary health agencies they knew most about, more of the patients were aware of the "March of Dimes" for polio than of any other. The American Cancer Society ranked second. Only 27 per cent of the cancer patients reported that they knew most about the American Cancer Society. The next in order were the Visiting Nurse Association, about which the clinic nonmalignant patients knew most, and the Tuberculosis Association, named by the cancer patients and by the hospitalized patients. The large percentage of respondents with knowledge about the "March of Dimes" undoubtedly results from the intensive campaign conducted by the National Foundation. The "March of Dimes"

TABLE 7

Percentage Distribution of Subjects' Knowledge of Voluntary Health Organizations

Agencies	Category		
	Cancer Dx-Clinic 1959, 1955–58	Nonmalignant Dx Clinic—1959, 55–58	Hospital Admissions Nonmalignant 1960
D. C. Tuberculosis Association	17	11	16
March of Dimes (Polio)	47	41	52
American Cancer Society	27	25	21
Visiting Nurse Association	3	22	6
American Heart Association	6	1	5

street campaign obviously has reached a larger segment of the public than have the campaigns of the other agencies mentioned by the question (table 7).

As seen from table 8, the largest percentages of all groups have no knowledge of what the American Cancer Society does. The next largest percentages answered that the Cancer Society gives service to cancer patients. To an equal extent the nonmalignant patients and the hospitalized patients said that the Society collects money. This was also the third choice of the cancer patients. Research grants, fellowships, etc., came next in all cases. An important point is that the fifth choice of all groups was that the Society furnishes information on cancer, and the cancer-diagnosed patients had the lowest percentage of this reply (table 8).

TABLE 8

Percentage Distribution of Subjects' Knowledge of Functions of the American Cancer Society

Functions	Category		
	Cancer Dx-Clinic 1959, 1955–58	Nonmalignant Dx Clinic—1959, 55–58	Hospital Admissions Nonmalignant 1960
No knowledge	30	25	35
Furnishes information on cancer	5	11	10
Research grants, fellowships, etc.	12	15	12
Conducts educational programs for general public	3	8	5
Conducts educational programs for professional medical personnel	5	4	4
Gives service to cancer patients	21	18	15
Collects money	19	18	15
Other (including misconceptions)	5	1	4

Other potential communication channels. To try to throw some light in still another direction of this goal, several potential communication channels for early cancer detection were explored. In an open community health interest must compete with a welter of social customs and prejudices that make good preventive medicine difficult and people unwilling to accept it.

Within every community there exist many nonmedical agencies. Some of these have a great capacity for service but only if they can be reached. "Our aim is to reach the cancer patient, not to require the patient to find us."[4]

The church plays a most important role in community life. This study showed that all categories reported a high percentage of church membership. It must be kept in mind, however, that an individual's concept of church membership may range from dues-paying to attendance without the formal procedure of joining. However, the high percentage of cancer patients who stated that their faith in God had become stronger is corroborated by the attendance record they reported.

The majority in all categories attend the Baptist church. Almost three-fourths, however, do not belong to any clubs or organizations within the church.

The majority in each category said either that their church had no health program or that they did not know if it had. The high percentage of "Don't know" answers show a lack of interest in programs at the church other than religious services, or lack of proper stimulation, or both. Only 18 per cent of cancer patients, 17 per cent of nonmalignant clinic cases, and 26 per cent of hospitalized patients stated that their churches have health programs, such as talks and discussions.

Other sources of health information. Membership in other types of organizations than the church was very small, and the percentages of these organizations which had health programs including information about cancer were particularly small.

Other media. The patients were also questioned about some of the other media of communication to which they are exposed. Approximately one-third of the respondents named the *Washington Post* as the newspaper they read regularly. Other local papers mentioned were the *Washington Evening Star*, the *Washington Daily News*, and the *Afro-American*, in that order.

Thirty-five per cent of the cancer patients believed that television is the source which is most likely to carry health information, while 24 per cent in the two nonmalignant categories mentioned this as the single most important source of health information. For the last two groups the largest numbers of patients said that daily newspapers are the sources most likely to carry health information. Twenty-six per cent of the cancer patients mentioned daily newspapers. Thus, the ranking of health information media of cancer patients, with television first and newspapers second, was exactly opposite to the ranking of the two other groups.

Patients were also asked if they read regular columns on health in the newspapers and, if they did, with what regularity. Most in each group stated that they read such columns regularly.

In answer to the question about reading regular articles on health subjects in magazines, the percentages were concentrated under regularly, occasionally, and never, in much the same manner as observed for the reading of health columns in newspapers.

The highest percentages of patients of all categories stated they had obtained information about their disease from a doctor.

The query of the patients' knowledge of the signs of cancer showed that most of the cancer patients knew none. The percentages for recognition of the signs of cancer were scattered. However, the three mentioned by all groups to the greatest extent were unusual bleeding or discharge, lump or thickening in the breast or elsewhere, and a sore that does not heal.

SUMMARY

Three hundred respondents were selected for a study to determine among the low income "hard-to-reach" group the channels of communication open for transmission of information about cancer and the nature of the information which needs to be transmitted. One may conclude from the data presented the following significant points:

1. Delay in seeking early diagnosis was responsible for evidence of symptoms of advanced cancer in 98 per cent of cancer-diagnosed patients.
2. The greater proportion of respondents knew none of the seven important signs of cancer. Cancer patients and hospitalized patients had the highest percentages.
3. More information was obtained from physicians than from programs sponsored by the Cancer Society.
4. The majority of these individuals had little contact with formal groups, except the church, and even in the church they belonged to very few or none of the clubs within it. The respondents reported few health activities within the churches to which they belong.

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Observations on the Concomitant Use of X-rays and 5-Fluorouracil in Human Malignant Neoplasms

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An antimetabolite, 5-fluorouracil (FU), has been found to have an antineoplastic effect in a variety of animal tumors and in vitro tumor systems.[1, 2] Studies suggest that this fluorinated pyrimidine acts by inhibiting the formation of thymidylic acid necessary in desoxyribonucleic acid (DNA) synthesis and may act as an antagonist to ribonucleic acid (RNA) synthesis.[1, 3] Recent clinical studies have applied the drug in the treatment of a wide variety of human solid malignant neoplasms, and reports have generally concluded that FU has a definite anti-tumor effect.[1, 2, 4-11] However, it has been found to have a very narrow therapeutic range when administered in effective doses. Use of the drug in conventional dose schedules (15 mg. per Kg. body weight per day for five days by rapid intravenous injection) has produced significant toxicity involving sites of rapid cellular activity, particularly epithelial surfaces and bone marrow, in the majority of patients treated. In Ferguson and Humphrey's report[7] of 48 patients treated with rapid injection stomatitis was noted in 40 per cent, and nausea, vomiting, or diarrhea in 37 per cent. Neutropenia, less than 5,000 per cu. mm., occurred in 75 per cent, and in 50 per cent counts were less than 3,000 per cu. mm., with average total drug doses of 6 Gm. In a composite review of FU anti-tumor activity in man, gastrointestinal and hematologic toxicity were reported in virtually all patients with total drug doses ranging from 4 to 6 Gm.[1]

Recent work has been aimed at methods of altering this toxicity without impairing the anti-tumor effect. In comparing results of conventional rapid intravenous administration Lemon[12] noted that by simply prolonging the administration time to eight hours a dramatic reduction in toxicity was produced without altering tumor response. Toxicity was not observed in a number of patients, and in all those who did manifest toxicity the effects were mild. Sullivan et al[13] confirmed the alteration in toxicity by the continuous method of administration and observed that significantly greater amounts of FU over longer periods of time were tolerated without serious toxicity.

Recently the simultaneous use of FU and X-ray therapy has been advocated.[6, 14] Foye et al[14] suggested that true anti-tumor synergism was responsible for the tumor regression noted in two-thirds of 24 patients treated with FU in combination with X-ray therapy. Administration of the drug over three or four hours produced only mild toxicity in but 50 per cent of those treated. Von Essen et al[15] also observed anti-tumor synergism in the use of X-rays with FU by conventional rapid injection. This radiosensitization by halogenated chemotherapeutic agents has been related directly to chemical modification of the DNA.[16]

These findings suggested the trial of this drug in greater doses over longer periods of time in combination with X-ray therapy. This report is the result of the observation of 26 patients so treated to determine the toxicity of this treatment schedule and its therapeutic usefulness.

METHOD

Patients with biopsy-proven inoperable carcinoma were included. Those with objectively measurable primary or metastatic lesions were observed for toxic effects and for response of lesions. Four patients without measurable disease were observed for toxicity only. None of the patients had been suppressed previously by other forms of therapy. Life expectancy was at least three months, and there was no evidence of infection at the onset of therapy. Two groups of patients, selected consecutively, were utilized to determine the role of the vehicle in producing toxic and tumor effects. The first group (15 patients) received 15 mg. of FU per Kg. per day (not exceeding 1.0 Gm.) by continuous intravenous infusion over an 8-hour period in 5 per cent dextrose in water daily, excluding weekends and holidays. The second group (11 patients) received the drug identically in saline. Daily radiation treatments of approximately 200 r tumor dose with Cobalt-60 gamma ray and 300 kv. sources were administered during the infusion period in both groups. Patients were observed daily for subjective complaints and epithelial effects. Hemograms were done twice weekly, and blood urea nitrogen and alkaline phosphatase determinations were done weekly. Total doses of FU ranged from 10 to 31 Gm. over 2- to 6-week periods, varying with the time required to complete a course of X-ray therapy. The average total drug dose was 14.3 Gm. in the saline group and 16.5 Gm. in the glucose group. This contrasts significantly with the conventional doses of 4 to 6 Gm., and compares with the large doses used by Sullivan et al[13] without associated X-ray therapy. Total tumor doses of X-rays varied from 1,900 to 7,000 r.

TOXIC EFFECTS

In most instances (84 per cent) FU administration was tolerated to the conclusion of the usual course of X-ray therapy for that tumor. Toxic effects were severe enough to necessitate discontinuing the drug in five patients receiving prolonged therapy. In three patients (nos. 4, 5 and 6)* marked neutropenia developed; in two patients (nos. 2 and 5) marked sclerosing phlebitis was noted; and in one patient (no. 22) severe nausea and vomiting occurred. Toxicity was manifested primarily in gastrointestinal symptoms and hematologic effects, which has also been true of FU administered by other dose schedules. Table 1 summarizes data concerning toxic effects.

Anorexia was consistently produced, often early in the course of therapy (three to ten days). Relief was prompt on discontinuing treatment. Nausea and vomiting were mild and were controlled by the use of moderate doses of phenothiazine drugs, except in one patient (no. 22). These symptoms were not different in severity or time of appearance from those noted by us in the routine use of X-ray therapy alone. Diarrhea was noted only twice and occurred at the same time in two patients occupying the same room. Symptoms cleared up during continued therapy and cannot definitely be ascribed to drug toxicity. Stomatitis occurred in only three patients, with shallow ulcerations clearing up at the conclusion of therapy, and did not necessitate interruption of therapy.

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* Patients are referred to by number from table 1.

TABLE 1

Toxic Effects of X-ray and FU

Patient No.	Total Dose (in grams)	Phlebitis	Days after Treatment Started	White Count			Anorexia	Days after Treatment Started	Nausea and Vomiting	Days after Treatment Started	Other
				Pretreatment × 10^3	Lowest × 10^3	Days after Treatment					
1	10	+[1]	9				+++	10	+	4	
2	20	++; +++*	8; 20				++; +++	3; 16			Stomatitis ++
3	24	++	14	10.7	2.1	24	+	9	+	19	Platelet decreased
4	31	+	18	7.9	1.8*	32					
5	31	++ - +++*	10	5.5	0.725*	34	+++	8	++	9	Platelet decreased ++; melena +; diarrhea ++
6	24	++	13	4.4	1.7*	26	++; +++	6; 11	++	11	Diarrhea ++
7	10			7.1	3.8	7	++; +++	6; 8	++	16	
8	15	++	6						+	15	Platelet decreased +
9	21	++ - +++	5				+; +++	7; 19			
10	20						+	13			
11	10										Hemoptysis +
12	10										
13	10								++	3	
14	10						++	5	+	1	
15	10						+++	4			Stomatitis +
16	10										Stomatitis ++
17	12	++	8				++	11			
18	15								++	14	
19	19	++	8				++	4			
20	10	+	8						++	1	
21	14	+	14	6.6	4.2	20	+; +++	9; 19			
22	12						+; +++	3; 12	++; +++*	10; 15	
23	14			7.4	4.0	21					Platelet decreased +
24	10			5.6	3.9	10	+	5			Platelet decreased +
25	20	++	13								
26	13			8.3	4.1	15					

[1] Symptoms graded + to ++++, 1 plus being mild and 4 plus very severe

* Necessitated stopping therapy

Platelet depression was noted in five patients and was mild in all instances. There was no significant alteration in the hematocrits. Leukopenia was noted in nine patients. With a single exception (patient no. 7) this was not seen until after two or three weeks of therapy and was severe (white blood cell count less than 2,000 per cu. mm.) in only three patients (nos. 4, 5 and 6) treated with 26, 31 and 34 Gm. of FU respectively. White blood cell counts rapidly returned to normal after therapy was concluded.

A peculiar phlebitis, characterized by brawny induration and discoloration of the skin over the vein used for infusion, was observed in ten patients. Other signs of acute thrombophlebitis were lacking except in one patient (no. 9), in whom acute thrombophlebitis developed three days after therapy ended. This sclerosing phlebitis occurred as early as the fifth day of therapy but generally appeared in the second or third week and persisted after treatment was discontinued.

Melena occurred in one patient (no. 5) but cleared during continued treatment. Hemoptysis attributable to the patient's disease was noted in one patient (no. 11). There were no changes in blood urea nitrogen or alkaline phosphatase. Table 2 indicates that comparable toxicity occurred whether FU was administered in glucose or in saline. In both groups toxicity was generally related to drug dosage.

The following general conclusions are drawn regarding the toxic effects of FU in the dose schedule used. Mild gastrointestinal complaints precede other effects. Leukopenia and sclerosing phlebitis may occur with large total doses of the drug. Toxic effects were not noted with doses less than 10 Gm. Limiting toxicity was only occasionally encountered and as much as 31 Gm. of FU was tolerated in a single course. Toxicity was generally related directly to the total dose of FU and was markedly reduced over that seen with conventional rapid administration. Twelve patients (45 per cent) showed no significant toxicity. In spite of total drug doses averaging 15 Gm. and ranging as high as 31 Gm., in only five patients (19 per cent) did sufficient toxicity develop to require interruption of therapy. This contrasts significantly with the limiting toxicity noted after 5 to 7 Gm. total dose by conventional rapid administration.

Lemon[12] has suggested several possible reasons for the reduction in toxicity produced by prolonging administration time. He noted that normal tissue is not rate-limited in RNA synthesis. Uptake thus increases as an exponential function of increasing concentration, whereas malignant tumors, with one or more rate-limiting factors, take up FU relatively more slowly as concentration increases. Slower administration, then, allows greater diversion of drug to neoplastic tissue. The suggestion that the glucose may aid in anti-tumor effectiveness was not borne out by our experience (table 2). Sullivan et al[13] suggested that with slow administration relatively more malignant cells may be in proper phases of mitotic activity to take up FU than when short-lived, high concentrations are produced by rapid administration.

TABLE 2

Toxicity Related to Method of FU Administration

	Total Patients	Phlebitis	Stomatitis	WBC Depression	Platelet Depression	Anorexia	Nausea & Vomiting
Glucose	15	5	1	5	3	9	7
Saline	11	5	2	4	2	6	6
TOTAL	26	10	3	9	5	15	13

RESULTS OF THERAPY

Fourteen patients were treated for primary lung tumors. The remainder had primary malignant neoplasms arising in eight different sites and all but four had measurable lesions. One patient (no. 24) had not completed his course of therapy. These five could not be observed for tumor response. The longest period of observation following treatment has been eight months; thus, definitive conclusions regarding the effect of therapy on longevity cannot be made. Evaluation of response was limited to noting percentage regression in the measurable lesions treated. Responses ranging from 20 to 95 per cent regression were obtained in ten of 21 patients treated (48 per cent). Seven (33 per cent) showed 50 per cent or greater reduction in the size of tumor masses. Table 3 summarizes the results of therapy.

In general, responses could not be correlated with the histologic character of the tumor, nor was there any direct correlation between response and drug and X-ray doses administered. The method of administration of FU also appeared unrelated to response. Seven of 13 evaluable patients in the glucose group responded, compared with three of eight in the saline group. Significant toxicity was not a necessary accompaniment to tumor response. Five patients responded while troublesome toxic effects (neutropenia, severe nausea, and phlebitis) were developing, and five responded without significant toxicity. Statistically, it could not be concluded from these data that tumor response was defi-

TABLE 3

Tumor Response

Patient	Diagnosis	Total Dose FU (Gm.)	Total Tumor Dose in r	Measured Reduction in Tumor Size
1	Anaplastic carcinoma of lung	10	2000	0
2	Undifferentiated carcinoma of lung	20	4000	20%
3	Squamous cell carcinoma of lung	24	4000	0
4	(?) Bronchogenic (?) Esophageal carcinoma	31	4200	95%
5	Carcinoma of breast	31	3670	33%
6	Intraductal carcinoma of breast	24	4300	25%
7	Testicular teratocarcinoma metastatic to lung	10	2000	50%
8	Adenocarcinoma of ascending colon	15	2000	*
9	Bronchogenic carcinoma with superior vena cava obstruction	21	4200	95%
10	Squamous cell carcinoma of lung	20	3200	0
11	Undifferentiated carcinoma of lung, small cell type	10	2000	0
12	Undifferentiated carcinoma of lung	10	2000	0
13	Squamous cell carcinoma of tonsil	10	7000	50%
14	Adenocarcinoma of ascending colon	10	2000	*
15	Adenocarcinoma of rectum, metastatic to lung	10	2000	0
16	Squamous cell carcinoma of tonsil	10	4350	50%
17	Undifferentiated bronchogenic carcinoma, large cell type	12	5200	0
18	Undifferentiated bronchogenic carcinoma	15	4000	0
19	Undifferentiated bronchogenic carcinoma	19	4000	50%
20	Squamous cell carcinoma of lung	10	4000	0
21	Adenocarcinoma of kidney	14	4000	*
22	Squamous cell carcinoma of hypopharynx	12	7000	0
23	Adenocarcinoma of cecum	14	4000	*
24	Anaplastic carcinoma of lung	10	1900	*
25	Squamous cell carcinoma of lung	20	4000	0
26	Squamous cell carcinoma of lung	13	4000	80%

* Lesions not measurable

nitely attributable to FU administration. Results suggest, however, that FU may enhance the usual tumor response to X-rays, and further use of combined therapy is warranted.

The following case histories illustrate the excellent response occasionally seen in patients treated with FU and X-rays in combination, although they are not typical of overall results.

ILLUSTRATIVE CASES

Case 1. A 37-year-old white man (patient no. 4, table 1) first noted left lateral chest pain over the third rib in November, 1960. This was followed in a few weeks by a nonproductive cough and dysphagia, allowing only the ingestion of liquids. By January, 1961 the pain had become severe. The patient was anorectic and had lost 15 pounds over a 2-month period. A roentgenogram revealed an anterior mediastinal mass, which, on barium swallow, deviated the esophagus to the right and posteriorly and the trachea anteriorly (figures 1–A and B). A thoracotomy revealed an inoperable squamous-cell carcinoma of either esophageal or bronchogenic origin. A gastrostomy was done to facilitate feedings, and the patient was transferred to Walter Reed General Hospital late in January, 1961.

On admission the patient was cachectic, having lost more than 30 pounds. He could not be fed orally. On February 5, 1961 he was started on a course of 5-fluorouracil, 1.0 Gm. daily by intravenous infusion in glucose over eight hours. After four days of chemotherapy radiation therapy was started. Nausea and vomiting, severe enough to require several interruptions of therapy, occurred on this regimen. A pneumonitis which developed during therapy responded to antibiotics. Therapy was concluded on March 27, 1961 because of a leukopenia of 1,800 per cu. mm., after administration of 31 Gm. of FU in combination with X-ray therapy. At this time a barium swallow revealed 95 per cent reduction in the size of the tumor mass and a near normal appearance of the esophagus and superior mediastinum. Tracheal and esophageal deviation were no longer present. Weight gain and symptomatic improvement were progressive. By mid-May, 1961 the gastrostomy was closed, and the patient was sent on convalescent leave. On his return he was found to have gained from a low weight of 135 pounds in mid-March to 165 pounds in mid-July, 1961. A barium swallow on July 19, 1961 revealed an essentially normal chest and esophagus (figure 1–C and D).

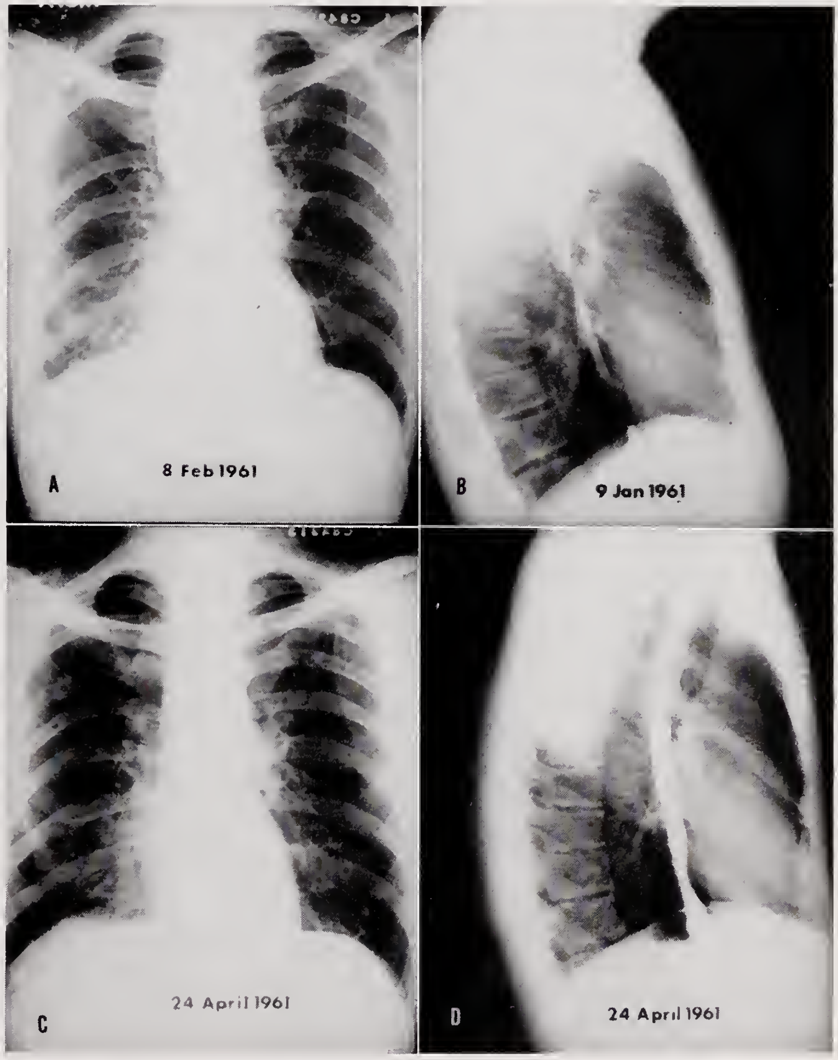

FIG. 1. A and B. Before treatment, with esophageal and tracheal deviation. Patient required gastrostomy feeding.
C and D. After treatment, patient asymptomatic, eating by mouth normally.

Case 2. A 45-year-old white man (patient no. 9, table 1) first noted persistent cough and anterior chest pain in October, 1960. Six weeks later marked exertional dyspnea and a choking sensation with recumbency developed. In December, 1960 a thoracic roentgenogram revealed widening of the superior mediastinum, and the patient was referred to Walter Reed General Hospital (figure 2–A). Examination revealed swelling of the face and venous distention over the face, neck, chest and arms. Obstruction to the superior vena cava was presumed present on the basis of these findings and an elevated venous pressure of 380 mm. of saline. Metastatic bronchogenic carcinoma was diagnosed from a right scalene node biopsy.

On January 23 the patient was started on a course of 5-fluorouracil, 1.0 Gm. daily by continuous 8-hour intravenous infusion in glucose, with X-ray therapy. On February 21, 1961 treatment was concluded after 21 Gm. of FU and 4,200 r total tumor dose of X-rays had been administered. Severe phlebitis and anorexia accompanied therapy, but hemograms were not significantly altered. At the conclusion of therapy, there was no evidence of superior vena cava obstruction. There was progressive diminution in the size of the mediastinal tumor mass subsequently, and on reëvaluation late in June, 1961 there was 95 per cent regression (figure 2–B). The patient was asymptomatic with a normal venous pressure.

SUMMARY

A fluorinated pyrimidine, 5-fluorouracil, has been shown to have an anti-tumor effect and has been reported to enhance the effect of X-ray therapy in the palliative treatment of human malignant neoplasms. Prolonging the time of administration has been observed to improve the

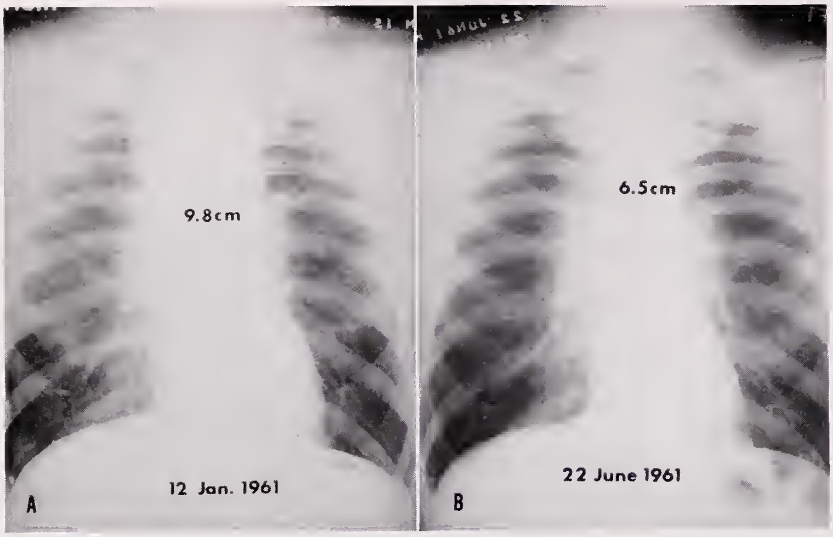

FIG. 2. A. Before treatment, with superior vena cava obstruction. B. After treatment, patient asymptomatic.

therapeutic index. This study reports the toxic effects and tumor responses observed in 26 patients treated with a combination of X-ray therapy and 5-fluorouracil by continuous intravenous infusion.

Results indicate that a marked reduction in the usual toxicity of FU may be obtained by continuous 8-hour infusion, compared with the usual rapid injection. Two to six times the usual tolerated doses were administered without reduction in the usual courses of X-ray therapy, with infrequent limiting toxicity. Comparable toxicity, when present, was seen whether FU was administered in glucose or in saline. Prolonged intravenous therapy frequently produced a sclerosing phlebitis. Tumor responses were not definitely correlated with histologic appearance, drug and X-ray therapy doses, or with the occurrence of toxicity. Regression in tumor size was produced in nearly 50 per cent. Although response was variable, in one-third of the patients 50 per cent or greater regression of the tumor was seen. Additional experience is necessary to assess the exact role of FU in such responses.

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Ragweed Repository Immunization in Previously Untreated Hay Fever Patients

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During the past few years, especially since Loveless[1] published the results of 17 years' experimental work on repository immunization in ragweed-sensitive patients, there has been a surge of interest in repository immunization as a practical method of treatment of hay fever. Repository immunization has been shown to be of value in antimicrobial prophylaxis by the Armed Forces Epidemiological Board which by 1959 had used this method successfully to inoculate 75,000 military and civilian personnel.[2]

In pollinosis the results of repository immunization are particularly difficult to assess, since not only does the pollen count vary from day to day and year to year, but the effect of previous immunization is known to last in some patients for more than one pollen season.

Materials and Methods

This report presents the effect of ragweed repository immunization in a series of 14 patients, 12 of whom were previously untreated. Of the two who had been treated, one had received repository immunization in 1958 and the other had had conventional preseasonal immunization in 1956 with good results but with three "constitutional" reactions.

Selection of patients depended on two factors: the promise that each would return for an eye test at the end of the pollen season and the fact that each (with the exception of the two patients already mentioned) was previously untreated. In every case, a complete allergy history was taken and a physical examination performed.

Each patient received skin and conjunctival tests before immunization, and the conjunctival test was repeated at the end of the ragweed season. For this purpose fresh dilutions of a glycerinated mixed ragweed extract containing 85,850 protein nitrogen units per cu. mm. were made the day before the pre-immunization and again the day before the postimmunization conjunctival tests were performed. The method used was that described by Loveless.[1]

The repository extract used was Arlacel-Atreol no. 18. This extract differed from that used in 1957 only in that Arlacel was substituted for Falba, the light mineral oil Atreol being used in both emulsions.[1] The ragweed extract was, of course, unglycerinated since glycerine is known to decrease the stability of the emulsion.[1] Each 0.1 ml. of the final emulsion contained 1,000 protein nitrogen units of equal parts of low and high ragweed. No epinephrine was used in the extract, and no antihistaminic was given to patients before the injection.

Doses were administered according to the following schedule: Patients whose conjunctival reactivity level was 10–30 protein nitrogen units received 1,500 protein nitrogen units; those showing positive conjunctival tests from 40–240 protein nitrogen units received 3,000 protein nitrogen units; and those showing positive conjunctival tests of 320 or more protein nitrogen units (of which there were none in this small series), 5,000 protein nitrogen units.

The extract was reëmulsified by hand for six minutes before each dose was administered. It was given intramuscularly in one injection, not in divided doses as were used in 1957. Every patient remained in the office approximately four hours after the injection.

All the injections were administered between June 26 and July 24, 1959, that is, within a four-week period, seven to three weeks before the onset of the ragweed season.

Results of the basic workup on these 14 patients revealed that they all gave a typical history of ragweed hay fever. The duration of hay fever symptoms varied from three to 40 years, the average being 17.4 years. Two patients were suffering from moderately severe grass hay fever, but none was suffering from asthma at the time that the repository injection was given (June). Five of the patients gave a history of pollinosis other than ragweed, and three others gave 4-plus intracutaneous tests to timothy extract containing 100 protein nitrogen units per ml. but denied clinical hay fever in May or June. Six patients complained of nasal symptoms provoked by dust at times other than during the ragweed season. Two patients were bothered by dust only while they were suffering from ragweed hay fever. Five patients gave 4-plus intracutaneous tests to mold extracts (Alternaria or Hormodendron, or both) containing 100 protein nitrogen units per ml., and all five had clinical symptoms such as "chest tightness" when exposed to molds.

The patients' estimate of results was obtained in October at the time that the postimmunization conjunctival test was done. Some patients had kept a daily record of symptom-hours during the hay fever season to help compare symptoms in 1959 with those experienced in 1958. The symptoms suffered in the entire season were reevaluated in October and the per cent of improvement estimated. Most patients were able to compare the number of antihistaminics taken in 1959 with the number ingested during the previous season.

RESULTS

The results of immunization are shown in table 1. No patients experienced complete relief, and two experienced no relief. Nine patients had 70 to 90 per cent relief, and three patients reported 20 to 60 per cent relief.

TABLE 1

Changes in Conjunctival Test, Pre- and Postimmunization Dosage, and Clinical Results

Patient No.	Eye Test		Date	Dose of Repository in Protein Nitrogen Units	Clinical Relief (per cent)
	Pre-	Post-			
1	2½	40	3 July	1,000	60 (no antihistamine in season)
2	7½	15	26 June	1,000	25 (tolerance rose from 3–30 pollen count)
3	7½	40	3 July	1,500	80–90
4	7½	40	26 June	1,000	20
5	10	60	29 June	1,500	70
6	10	320	29 June	1,500	80 (4 antihistamines in season)
7	10	80	13 July	1,500	80
8	20	40	6 July	1,500	70
9	20	80	26 June	1,500	0 (great exposure)
10	20	80	29 June	1,500	80 (no relief first week)
11	40	80	20 July	3,000	75
12	60	120	24 July	3,500	75–80
13	80	640	13 July	3,000	80 (less than 1958)
14	80	160	10 July	3,000	0

There were no untoward reactions, neither cysts at the site of injection nor generalized "constitutional" reactions. None of the local reactions was unduly large or painful, but several patients noticed itching locally for two or three days.

All patients showed an increase in the postimmunization, as compared with the pre-immunization conjunctival test (table 1). However, five increased by only one dilution; i.e., doubling the strength of the ragweed extract that resulted in a positive test before treatment caused a positive test after immunization. Since the conjunctival test is duplicable within one-half of a dilution,[3] these cases likely represent significant increases in thermostable antibody.

Discussion

It is obvious that this group of patients was more sensitive than the average patient suffering from ragweed pollinosis. Patients with positive conjunctival tests of 10–30 protein nitrogen units usually are considered class A patients (those of greater than average sensitivity). In this series of 14 patients, 10 were class A or AA patients. Another patient who had tested as a class B patient (conjunctival test 40) in 1959 had tested as a class A patient in 1958. Four of these ten patients classify as AA patients (conjunctival test positive at less than 10 protein nitrogen units per ml. and intracutaneous tests positive [4 plus] to extract containing 1.0 protein nitrogen unit per ml.). In fact, three of the four patients showed intracutaneous tests of 4 plus to ragweed extract containing 0.1 protein nitrogen unit per ml. It is well known that class A patients as a group usually derive less relief from immunization than average (class B or C) patients.

All four of the mold-sensitive patients had less than 75 per cent relief, although three of them had a significant increase in the titer of the post-immunization conjunctival test. Hence, it is impossible to say whether their hay fever was caused by molds or ragweed or by a combination of both. None of the patients had been immunized against molds.

In Washington, D. C. the year 1959 was an average ragweed season. It differed from 1958 only in that the pollen count was higher in the early part of the season, i.e., in the last two weeks of August, than is usual. However, the average of the entire season was, if anything, a trifle less than usual.

The patients in this series took no precautions during the ragweed season. They drove in the country, played golf, and went camping. Some took no antihistaminics whatsoever.

Individual exposure to ragweed, of course, varied. All the patients, even the two international pilots in the group, were in the ragweed area during the season. Although a few worked in air-conditioned offices, most of them did not. One patient was a traveling salesman, motoring ten to 12 hours a day with open windows. This patient experienced no relief.

Although no patients enjoyed 100 per cent relief, complete relief could hardly be expected in so highly sensitive a group, especially with overwhelming exposure.

Three of the 14 patients suffered from "physical" symptoms; that is, drafts, changes in temperature, and air-conditioning aggravated their rhinitis.

There is no doubt that the repository immunization stimulated acquired immunity, since most of the patients developed thermostable antibody as measured by the post-treatment conjunctival tests. However, there is no assurance that the maximum titer was detected, because each patient received only 1 postimmunization conjunctival test, and this was done after the subsidence of hay fever. The patients' maximum titer may well have occurred before or after the day of the test.

The time interval between the administration of the repository antigen and the onset of the pollen season may have affected the results. Some patients who suffered from hay fever during the last 2 weeks in August but had no symptoms in September might have had milder symptoms in August had the repository injection been given two or three weeks earlier. It has been shown[1] that the peak of immunity usually develops in two to three months, but in any previously untreated patient the onset of immunity cannot be foretold exactly. Since the pollen count tapered off rather early in 1959, no failures can be be ascribed to the emulsion's having been given too far in advance of the peak pollen count.

The mental attitude of this group of patients seemed to differ from that of the "usual" ragweed-sensitive patient seeking preventive therapy. With the exception of the two international pilots, most of the patients seemed to want something for nothing. They seemed to be impatient of routine or repetition and may have sought the "one-shot" method for this reason. It is possible that this attitude may have influenced the reported results.

Even with daily hay fever diaries and accurate count of antihistaminics consumed, it is difficult for any observer to understand how patients evaluate their improvement. For example, one patient who estimated only 60 per cent relief needed no antihistaminic throughout the entire ragweed season, yet another patient who took four antihistaminics in the season estimated 80 per cent relief.

Although this group of patients was unusually sensitive, no constitutional reactions were encountered, even in the patient who had had three such reactions in 1956. Two patients who had been hospitalized for ragweed asthma in 1958 did not experience any wheezing in 1959, although both had considerable exposure, one working in an orchard in West Virginia and the other visiting Kansas City early in September. One patient who previously had been unable to tolerate a pollen count of 3 now tolerated a pollen count of 30 without symptoms.

Patients who received emulsion placebo in Loveless' series reported up to 44 per cent relief. However, most of these patients had previously been treated, either by conventional and/or repository immunization. It is well known that in some patients the results of previous therapy may carry over more than one season.

This "carry-over" immunity could be studied in only one patient of this series, since he alone had received repository immunization in 1958. Before treatment in 1958 his conjunctival test was 10, and 5 weeks later it was 40. Before treatment in 1959 his conjunctival test was 80, and 12 weeks later it had risen to 640. However, this patient's clinical results were no better in 1959 than in 1958, when he had had a generalized "constitutional" reaction lasting 30 hours. It will be interesting to observe whether patients in this group will have increasing relief from season to season as is seen often in conventional therapy.

With all the variables inherent in this type of clinical experiment (pollen count, individual exposure, patient's attitude, physical symptoms, and those caused by molds) it is imperative that some well-controlled clinical studies be done to evaluate adequately repository immunization in the treatment of hay fever.

SUMMARY

Fourteen ragweed-sensitive patients received repository immunization by a single injection. No untoward reactions were encountered. The efficacy of treatment compares approximately with conventional immunization in a small group of highly sensitive (class A) patients. All the patients showed an increase in thermostable antibodies as measured by the conjunctival test.

The necessity of further basic clinical studies in repository immunization has been stressed. Previously untreated patients suffering from ragweed hay fever uncomplicated by mold or physical symptoms should be studied.

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Conservation Surgery of the Larynx*

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IT IS UNFORTUNATELY TRUE that the patient's adjustment following laryngectomy is frequently unsatisfactory, and few obtain an effortless flow of esophageal speech. It must also be admitted that many of the larynges removed for throat cancer contain only a small area of carcinoma, and in the case of lesions of the pharyngeal wall and base of tongue, frequently none. Except in infiltrating hypopharyngeal and pyriform sinus lesions and in extensive subglottic lesions, local recurrence is rare.

The Latin temperament accepts laryngectomy less well than the Saxon, and it is in the Latin countries that a large variety of partial laryngectomies has evolved in the last 22 years. There have been few American contributions in the last 5 years, and it still remains to be seen which will be accepted with the now-standardized laryngofissure, total wide-field laryngectomy, and laryngectomy with neck dissection.

It must be emphasized that more time, skill, and aftercare are required in partial laryngectomy than in total excision. The morbidity will be higher, and unless rigid, proven criteria in selection and technique are observed, the cure-rate will suffer. One foreign hospital allows their residents to do laryngectomies, but only the attending staff may do partial procedures.

Partial laryngectomies (extended) are not widely performed in the United States, and we have nothing to equal the 5-year series in the hundreds reported by Alonso[1] and Leroux-Robert.[2] Our longer series of partial vertical laryngectomies include those of Norris[3] and Som,[4] and for extrinsic carcinoma the partial horizontal laryngectomies of Ogura[5] number less than 100 cases. The classic laryngofissure (median thyrotomy with cordectomy) is excluded from this discussion; small carcinomas of a freely movable vocal cord have equally excellent results with irradiation.

Reluctance to accept these partial procedures has stemmed from the beliefs that they were surgically inadequate, frequently multistaged, and followed by increased morbidity and mortality from poor deglutition, aspiration pneumonia, and airway stenosis.

Their inadequacy may be refuted by the studies on compartmentalization of the larynx by Pressman[6] with the use of dye injection and the histopathologic studies of Leroux-Robert[7] and Ogura.[8] Embryologically also, the supraglottic larynx is separate from the glottic and subglottic. The procedures do not interfere with the performance of the classic radical neck dissection or the integrity of the pre-epiglottic space. Radiation and tumor emboli may change the lymphatic flow, and multicentric and separate carcinomas may be found, hence the necessity for careful preoperative evaluation.

Poor deglutition and aspiration pneumonia are overcome by good nursing and early education of the patient in keeping the airway clear. Antibiotics are used as indicated. The loss of the epiglottis, superior laryngeal nerves, and an arytenoid is not insurmountable. Rarely a temporary gastrostomy may have to be performed.

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* Portion of a longer paper entitled, "Minimizing Deformity in Tumor Surgery of the Head and Neck," presented before the Seventh International Congress of Otolaryngology in Paris, France, July 28, 1961.

Stenosis is prevented by the use of grafts, stents, and acrylic in a manner similar to the treatment of crushing laryngeal injuries.

Single-staged procedures with the avoidance of pharyngolaryngostomies are the common ones today.

Intrinsic carcinoma. There is a middle ground of glottic carcinomas with limitation but not fixation of cord motion, with extension to but not into the arytenoid, or of slight extension into the ventricle or subglottic region. These often have received a "trial of radiotherapy" with failure and subsequent laryngectomy.[9] There have been many approaches to the problem of a larger operation than laryngofissure as Glück,[10] Hautant,[11] Pressman,[12] Hofmann-Saguez,[13] Figi,[14] Som,[4] and Leroux-Robert[15] have proposed. I prefer the "extended frontolateral partial laryngectomy" of Norris,[3] since it has a low morbidity, short hospital stay, and high cure rate. In this procedure, following tracheotomy the larynx is entered through a vertical incision about a cm. on the opposite side of the midline. Horizontal incisions are made on the superior thyroid and cricoid rims. Arytenoid preservation depends on tumor location. The wound is retracted widely, and the specimen with most of the thyroid cartilage, false and true vocal cords, ventricle and arytenoid are removed. The raw areas may be covered by a skin graft on a stent left in place ten days. The tracheotomy tube is removed when food aspiration stops a few days later.

Extrinsic carcinoma. The epiglottis has been removed for carcinoma by simple amputation through a suspension laryngoscope, lateral pharyngotomy, and anterior pharyngotomy. These methods seem inadequate for a lesion which so often extends into the aryepiglottic fold, hyo-epiglottic space, and interior of the larynx, and metastases occur early. Ogura's one-stage modification of Alonso's procedure, the "supraglottic subtotal laryngectomy with radical neck dissection,"[16, 17] is an adequate procedure for those carcinomas limited to the epiglottis or with slight extension into the vallecula. A classical neck dissection is left attached to the thyrohyoid area. A lateral segment of hyoid bone is preserved on the side of lesser involvement. The thyroid cartilage is transected horizontally one-third down from the top. The hypopharynx is entered above the hyoid and the specimen removed under direct vision, with separation of the lateral from the posterior hypopharynx and cutting of the aryepiglottic fold from the arytenoids which remain, and the false cords being separated from the remaining true cords. Closure is obtained by mobilizing the remaining base of the tongue and suturing it to the perichondrium of the remaining lower thyroid segment. Up to a month is required for the patient to learn to swallow and clear his airway simultaneously.

Small pyriform sinus carcinomas which do not invade the thyroid cartilage or fix the vocal cord can be handled in a nearly similar fashion, with transection of the thyroid cartilage obliquely and removal of the ipsilateral arytenoid.[18]

Other hypopharyngeal carcinomas can often be removed by lateral or anterior pharyngotomy with preservation of the larynx. Accurate delineation of the tumor is essential by means of all methods of inspection, lateral cervical roentgenograms, tomography and contrast study. I do not graft posterior pharyngeal wall lesions because I think that little contracture is possible. Persistent dysphagia from loss of musculature and innervation is common, but voice and airway are uniformly good.

DISCUSSION

The number of patients suitable for these procedures varies. Most of them seen in the clinics in this area are too far advanced. Alonso[1] reported that from 1939 to 1955 he treated 595 patients with supraglottic carcinoma, performing partial horizontal laryngectomies in 127 of these, of whom 59 had 5-year cures. Leroux-Robert[2] reported 1,200 operations for laryngeal carcinoma, of which 500 were partial, with 293 followed 5 years. Ogura[5] has had no local recur-

(*Continued on page 65*)

Electrocardiographic Changes Associated with Acute Arsenic Poisoning

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ALTHOUGH ARSENIC has lost favor as a method of homicide with the advent of tissue analysis for heavy metals, intoxication is not infrequent. Suicidal ingestion and acute and chronic poisoning of an accidental nature associated with the industrial and farm uses of arsenical compounds still occur.[1, 2, 3] Therapeutic misadventure is less frequent.

Three cases have been seen at Walter Reed Army Hospital over a 3-year period in which electrocardiograms and serum chemistries were obtained early in the course of poisoning resulting from the suicidal ingestion of a rodenticide containing arsenic trioxide. Electrocardiographic changes were found which may represent direct cardiac arsenotoxicity. These changes are the subject of this report.

REPORT OF CASES

Case 1. A 24-year-old white woman ingested arsenic with suicidal intent. There was no history nor evidence of previous cardiac disease. The initial electrocardiogram was performed 24 hours later and showed generalized S-T change and Q-Tc prolongation (figure 1). In addition, there was reversal of normal polarity of the T. The S-T and Q-Tc change disappeared within 20 days, but the T abnormality had not disappeared completely at the time of hospital discharge 30 days following the ingestion. No significant distortion of serum electrolytes occurred at any time.

Case 2. A 21-year-old white man ingested arsenic with suicidal intent, and the initial ECG was performed 26 hours after arsenic ingestion (figure 1). The S-T, T changes seen in the previous case were not present, but there was marked prolongation of the Q-Tc at a time when the serum chemistries were normal except for slight urea retention and acidosis. The ECG returned to normal within 20 days despite the development of severe prolonged neurologic and hematologic changes ten days following the ingestion.

Case 3. A 21-year-old white man had an ECG performed three months prior to the ingestion of arsenic which was considered normal (figure 2). An ECG was performed six hours post-arsenic ingestion. It demonstrated moderate, generalized S-T depression with great prolongation of the Q-Tc. At this time there was no significant distortion of the serum electrolyte pattern. An ECG performed at 60 hours when the serum potassium had reached 8 mEq./L showed peaking of the T considered typical of hyperkalemia superimposed on the initial changes ascribed to arsenic. The patient died in acute renal failure with hyperkalemia following a convulsion. Postmortem cardiac examination showed subendocardial hemorrhage and fibrosis with subepicardial petechiae and myocardial perivascular mononuclear infiltration.

DISCUSSION

The pathologic finding of microscopic muscular damage and subendocardial hemorrhage is frequent in acute arsenic intoxication.[1, 2, 4, 5] Experimentally, ECG change has been correlated with acute and chronic canine poisoning.[6, 7, 8] Lethal intravenous poisoning in dogs usu-

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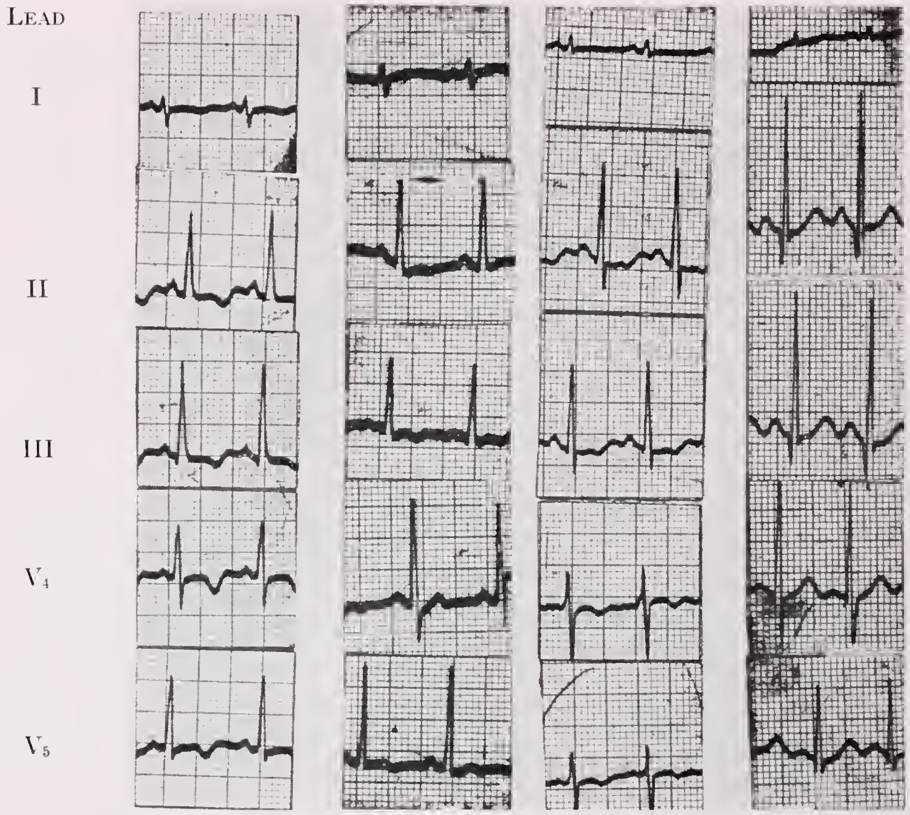

	Case 1		Case 2	
Time post arsenic	24 hrs.	20 days	26 hrs.	35 days
Serum Ca	4.9	4.9	5.0	5.1
mEq./l K	3.8	3.4	5.5	3.6
mm./l CO_2	25.6	29.8	15.6	26.9
Blood urea nitrogen, mg./100 ml.	33.0	9.0	51.0	14.0
QT interval	.36	.28	.36	.32

FIG. 1. QTc* in case 1 was 0.51 and 0.37 second. QTc in case 2 was 0.52 and 0.44 second in initial and follow-up ECG's respectively.

ally caused rapid, progressive ECG peaking of the T followed by "doming" and death in ventricular fibrillation or asystole. The ECG's reviewed in one publication suggested potassium intoxication.[8] Unfortunately, electrolyte studies were not performed in these experiments. Clinical reports in the American literature describe RS-T depression with disturbed intraventricular conduction and T inversion with massive arsphenamine therapy and nonspecific T change with Mapharsen therapy.[6, 9] Katz[9] advises caution in the use of arsenicals in patients with coronary insufficiency. Clinical reports ascribing characteristic ECG changes to chronic accidental arsenic poisoning have been reported in the German literature. Zettel[7] described an increase in the Q-T interval with or without T inversion as the most constant feature and QRS prolongation as a less frequent change. Opitz[10] presented a clinical case associated with the therapeutic use of Fowler's solution in which a prompt prolongation of the Q-T interval primarily due to a prolonged S-T interval occurred. This was shortly accompanied by flattening of

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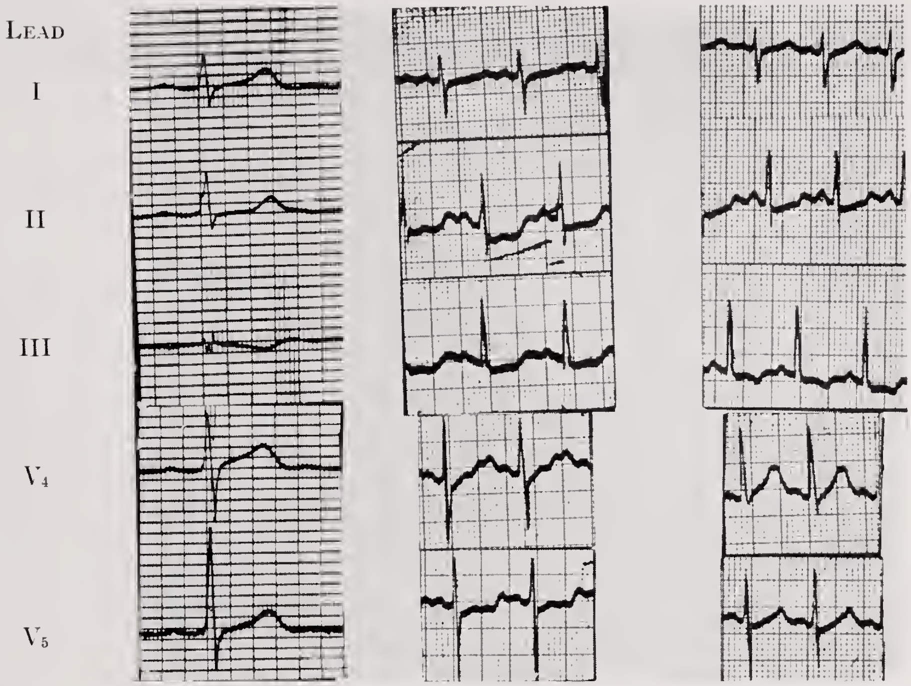
* QTc is corrected QT interval using Bazetts' equation: $QTc = K = \frac{QT}{R - R^1}$. The range of normal is 0.36 to 0.44 second.



Time	3 Mos. before Arsenic	36 Hrs. after Arsenic	4 Days after Arsenic
Serum Ca			
mEq./l K		4.6	4.1
		4.7	8.0
mm./l CO_2		20.2	19.0
Blood urea nitrogen, mg./100 ml.		15.0	96.0
QT interval		0.40	

FIG. 2. Paper speed was 50 mm./sec. in pre-arsenic tracing. Distance between heavy vertical lines represents 0.10 second. QTc* at 36 and 96 hours was 0.54 and 0.39 second respectively.

the S-T segment and T inversion. Chronic intoxication in dogs produces a similar pattern.[7, 10]

Reports of the acute electrocardiographic changes accompanying suicidal ingestion of arsenicals were not found by us.

The ECG changes noted in the Walter Reed patients are essentially the same as those reported in the German clinical cases and chronic experimental canine poisoning. It would appear that the changes noted following intravenous arsenic in dogs represent massive acute poisoning without a clinical counterpart. The change which seems characteristic but not diagnostic is prolongation of the QTc. It may be pronounced and primarily involves the S-T interval as in Opitz' case and our case 3.

The following features indicate that the ECG changes noted were due to direct arsenic cardiotoxicity:

1. The changes were present on initial ECG's taken shortly after arsenic ingestion at a time when no significant alteration of serum electrolytes, serum chemistries, neurologic or respiratory systems were present.

2. A normal ECG was present prior to poisoning in case 3 with transition to arsenotoxicity and finally hyperkalemic change prior to death.

3. There was no evidence of previous cardiac disease in cases 1 and 2, and the ECG changes regressed coincidentally with clinical recovery, suggesting an acute pharmacologic cardiac insult.

4. There are characteristic microscopic and

(*Continued on page 65*)

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* See footnote below figure 1.

Foreign Body in Knee Joint

Report of a Case

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THE FOLLOWING CASE is reported because of the unusual length of time, 27 years, in which a sharp-edged foreign body was imbedded in a knee joint before disturbing symptoms were produced. It demonstrates that an irritating foreign body may be imbedded within an actively moving joint without producing symptoms if it lodges outside of the articulating surfaces.

REPORT OF CASE

L. K., a 46-year-old attorney, visited the office because of a persistent pain in his left knee after twisting the knee at home five months previously. He had used an Ace bandage temporarily after the accident and had not sought or received any medical care. During the preceding several weeks the knee had become stiff, painful and difficult to bend, and he had noticed increasing pain with walking or going up or down stairs. He had been involved in an auto accident in 1933 when he had suffered a mild laceration of his left knee. This soon healed after the wound was repaired with a few sutures. He had no subsequent difficulty until the recent injury in December, 1959.

Examination showed soft tissue thickening of the left knee, mostly on the medial side, with restriction of motion to a range of 80° to 180°, compared to 30° to 180° on the right, indicating a loss of the last 50° of knee flexion. Further flexion of the knee was painful. There was definite crepitus with motion, particularly with movement of the patella, with audible roughening and grating beneath the patella. The suprapatellar pouch was thickened and boggy. There was no atrophy of the left thigh or calf. X-ray films of the left knee showed a triangular, wedge-shaped opaque foreign body in the lateral portion of the suprapatellar pouch (fig. 1). There were no degenerative changes of the femoral or tibial condyles or patella.

A diagnosis was made of synovitis of the left knee secondary to an undetermined type of foreign body. Arthrotomy was performed and revealed a wedge-shaped fragment of glass encased in fibrous tissue, firmly imbedded in the lateral portion of the suprapatellar pouch. There was a well established chronic synovitis, manifested as thickened fibrous bands running throughout the entire suprapatellar pouch on the lateral side, in addition

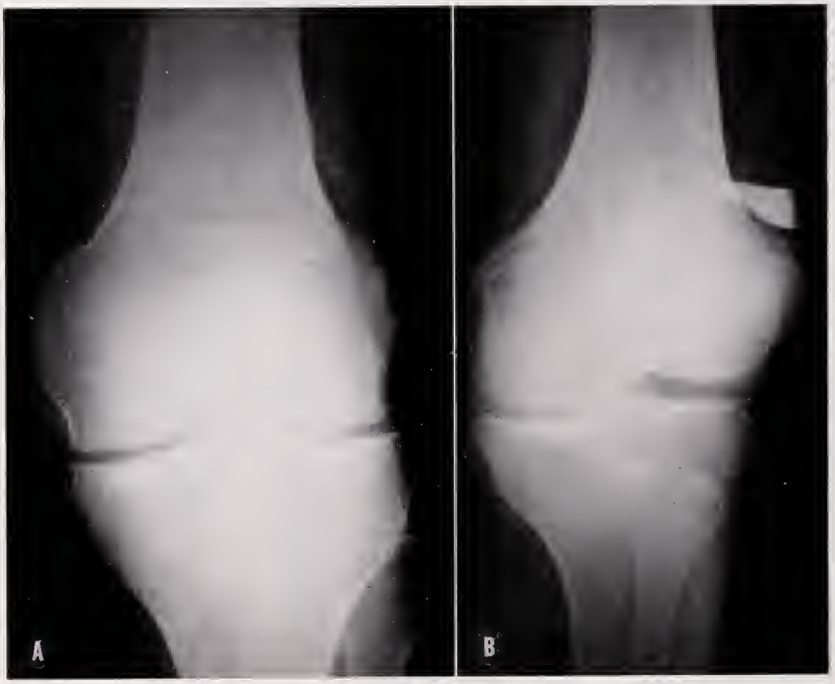

FIG. 1. A and B. Anteroposterior and oblique views of left knee (A has been retouched to show outline of foreign body). Note location of opaque foreign body in suprapatellar pouch, within synovial cavity.

to a moderate joint effusion of yellowish, clear synovial fluid.

The thickened synovia and bands were resected and the foreign body removed. The wound was closed without drainage. The operative wound healed promptly, and two weeks after surgery the patient was walking with minimal discomfort. Three weeks postoperatively he had a good range of knee motion, 90° to 180°. Two weeks later he had a full range of motion, equal in both knees, with only slight local thickening at the operative site. He was instructed to continue quadriceps exercises at home.

A check-up examination one year after surgery revealed continued good knee function with a full range of motion, no instability, normal gait, no effusion or discomfort, and no difficulty with ascending or descending stairs. He was discharged as an excellent result.

COMMENT

This case is of interest because of the unusual absence of symptoms resulting from retention of a large irritating type of foreign body, sharp glass, in a freely movable and weight-bearing joint over a period of 27 years. There was no history of further injury which could have caused the introduction of the foreign body after the accident of 1933. Although foreign bodies of this nature should obviously be immediately removed when recognized, this case demonstrates that they may persist without symptoms if they are not in contact with moving surfaces and are displaced to a peripheral portion of the joint area. The glass apparently entered the knee joint in the accident of 27 years before but was overlooked when the laceration was sutured. It had not caused sufficient discomfort over the subsequent years to necessitate medical examination or treatment.

This case indicates that X-ray films should probably be taken more often after injuries in which there is some possibility of entrance of a foreign body into the tissues. Although the foreign body may not be demonstrable by X-ray films a significant percentage are, and the relatively small amount of radiation exposure should not retard accurate diagnosis. This is especially true if a major joint, such as the knee, has been penetrated.

The History of the United States Army Medical Department in World War II

Concepts and Current Status*

COLONEL JOHN BOYD COATES, JR., MC, USA

Director, The Historical Unit, U. S. Army Medical Service; Editor-in-chief, History of the U. S. Army Medical Department in World War II

When the *Army-Navy-Air Force Journal* recently checked its files, in the light of the current flood of books on the Civil War, it came up with a prophetic item issued on 16 April 1863: "It has been said that at the close of the war there will be greater shedding of ink than there has been of blood during its continuance, and there undoubtedly is some truth in this saying."

To the "shedding of ink" concerning World War II, the Medical Department of the United States Army is contributing now, as in the past, at the direction of The Surgeons General of the Army. It was The Surgeon General of Civil War days, Brigadier General William A. Hammond, who had the foresight to begin preparations for the history of that conflict only a year after its onset and thus to provide for the first official U. S. Army Medical Department history. It was The Surgeon General of World War I, Major General William C. Gorgas, who set in train preparations for the medical history of that war only a few months after the United States had become a participant. Another and later Surgeon General acted even more promptly. Almost four months before the United States entered World War II, Major General James C. Magee revived the Historical Division of his Office, defunct since the history of World War I was completed in 1929, and thus set the stage for the preparation of the World War II medical history.

General Magee's successors have continued his interest in, and support of, this history. It is not an idle phrase, as I have pointed out many times, to say that the 50 volumes which will make up this series are being prepared and published under the direction of The Surgeon General. It was gratifying to all of us engaged in this project, when, in a recently published editorial, the present Surgeon General, Lieutenant General Leonard D. Heaton, expressed himself as in full sympathy with one of his predecessors, the late Major General Merritte W. Ireland, who considered the completion of the World War I medical history as perhaps the most important achievement of his tour of duty in that office.

Early Problems

When General Magee began his planning for the medical history of the war the United States had not yet entered, he wisely put the historical activities of his Office in the competent hands of Colonel (later Brigadier General) Albert C. Love, MC, who was called out of retirement for this purpose. Fortunately, the firm foundation which General Love laid overcame many of the difficulties which arose later.

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* The views and opinions expressed in this article do not necessarily represent those of the Department of Defense or of the Army.

In spite of sound advance planning, the history got off to a slow and bad start when plans began to be implemented. There was some unavoidable delay and confusion when the responsibility for the history was, very properly, transferred to the Office of The Surgeon General from the National Research Council, whose medical representatives, in spite of their professional eminence, had no background of medicomilitary experience. Then, for the first years of the endeavor the continuity of direction so essential in such a project simply did not exist. General Love's immediate successor also had the responsibility of the direction of the Army Medical Library, a full-time task in itself. His successor held office only briefly, and my immediate predecessor was ill during most of his tenure.

CURRENT STATUS

So it has come to pass that we are far from where we should be in this project. The first volume was not published until December 1952. Since September 1955 15 volumes have been published. Of the five volumes published in 1955, two had been in The Historical Unit since 1950, and others, which had to be reconstituted and rewritten because of the unwise editing to which they had been subjected, had been there even longer. All of these books should have been available for Korea, and we cannot escape the blame for our failure to have them ready.

The situation, however, is considerably more encouraging than the publication figures suggest. Four volumes are now in press, and two of them will appear in a matter of weeks. Nine others are being processed for publication in my office and will go to the printer shortly. Except for four volumes still in a completely inactive stage, all of the remaining volumes are in various stages of active preparation, and some of them are quite far advanced.

This is our status 16 years after the end of World War II. The first official medicomilitary history, on the Crimean War, was published an incredible two years after the war ended. It took 23 years to prepare the medical history of the Civil War and 11 years to complete the medical history of World War I. The scope of all these histories, however, is far less extensive and comprehensive than that of the World War II Medical Department history. When the 50 volumes planned for it are completed, they will constitute the most ambitious medicomilitary history ever undertaken, dealing, as they do, in very great detail, with the world-wide clinical and administrative activities of the Army Medical Department during the more than three and a half years of our participation in the Second World War.

THE BACKGROUND FACTS

A reader unfamiliar with this historical project will probably have many questions to ask about it. Let me try to answer some of them for him.

Are these definitive histories? No, they are not. As Surgeon Vice Admiral Edward Greeson wrote in his preface to a volume of the history of the Royal Naval Medical Service in World War II, nobody has ever written "the" history of anything. The best that can be hoped for is "a" history. He made that statement in advance, he frankly admitted, to take care of the adverse criticisms he knew this series would receive. I echo him, and for the same reason.

What is our procedure? We are writing this history chiefly as a chronicle of events. There are comment and interpretation, of course, but there is very little of higher or esoteric criticism in the sense that historians with a purely academic background would use the term. There should, of course, be an ultimate evaluation and analysis of the whole story, but that is the business of those who come after us. It is not our affair. Moreover, it is most positively not a task for laymen, with no background of medicine, military or otherwise. It must be undertaken by professional men with an extensive medicomilitary background.

We have attempted to tell the story as fairly and as unemotionallly as possible. Curiously, emotion rather than any attempt to alter the facts has sometimes been a problem—emotion, as General Heaton recently remarked, "recollected in anything but tranquility." Our purpose is to set down the record of the past so plainly that it cannot be misunderstood in the present or when a future day of trial may come.

There is, therefore, no suppression of facts, however damning they may be. The full story is told, for instance, of the 91,000 cases of cold injury, most of which should not have occurred; of the slow evolution of initial wound surgery as the closed plaster technique was tried and found wanting; and of the poor results of hand surgery before this special program came under the supervision of the late Dr. Sterling Bunnell. Perhaps not all editors and authors would be pleased to have one of their volumes described as "a résumé of . . . mistakes." We were; the reviewer meant to pay us a compliment and we so interpreted his remarks.

Why are we including administrative detail? Because in military medicine there is a close relation between administrative and clinical areas. Assignment of personnel, hospitalization, evacuation, control of auxiliary surgical group teams, nursing service, equipment and supply—these and many other aspects of military medicine are of overlapping clinical and administrative concern. Clinical competence would be valueless in time of war without an efficient administrative system for its application.

What does this series include? In addition to administrative volumes, it includes volumes on internal medicine, preventive medicine, neuropsychiatry, and surgery and the surgical specialties. It also includes a miscellaneous series composed of such important books as those on cold injury, on the blood program, and on wound ballistics.

What are the special problems of a medicomilitary history? They are multiple, and among the more important are the following:

1. Source material. The Army ended the war with 17,120 tons of records, but some of the most important medicomilitary facts were never recorded anywhere. Except for our policy of relying to a considerable degree on authors with first-hand knowledge of events we should have recorded some sadly distorted data.

2. Statistics. We have been extremely fortunate in securing some statistics we needed and very unlucky in the attempt to secure others. We can be grateful to the commanding officers of auxiliary surgical groups, to consultants, and to other medical officers who made it their business to see that statistics were amassed during the war for postwar review and analysis. Thus we have an unparalleled series of personally collected statistics for thoracic, abdominal, and thoraco-abdominal wounds from the Second Auxiliary Surgical Group; statistics covering head injuries, spinal injuries, and peripheral nerve injuries collected by the consultants in neurosurgery; and the clinical statistics collected by the Consultant in Surgery, Seventh U. S. Army. We are also grateful for the warm cooperation given by the Medical Statistics Division, Office of The Surgeon General, especially with regard to Army-wide statistics.

3. Personnel. The preparation of these various volumes involves dealing with some 842 persons: approximately 742 contributors; 35 editors and associate editors, some of whom are also contributors; and 65 office personnel, 48 of whom are civilians and 17 military. The Historical Unit is a Class II activity of The Surgeon General and thus part of the military structure. We also have 11 advisory editorial boards, with 145 members (some of whom are editors or contributors or both), and we have reason to be very grateful to them, for, as one reviewer put it, these boards have given to these historical volumes "an integrity and stature uniquely their own."

Most of our authors, in spite of early frustrations and false starts, have responded magnificently, but at that, to quote a British editor, we still have the problem of the "defaulting contributor," whose contributions are "so overdue as to be extinguished by long delay." Some of our contributions have thus been "extinguished," and others, I fear, will be. The editor of the Civil War medical history had at least a partial solution for this particular problem—he was directed to report military delinquents to The Surgeon General.

4. Illustrations. Some manuscripts are submitted without illustrations, and we must try to supply the deficit. Many illustrations, even though carefully preserved, have deteriorated with the passage of time. Many have not been carefully preserved. Others have not been improved by the lavish use of paper clips superimposed over roentgenograms of fractures or by the inscription of legends, in very black ink, across their faces. Fortunately, we have the services of an excellent medical artist who possesses the superior ability of making unusable illustrations usable.

5. Documentation and peripheral editing. Documentation, carried to excess, can lead, as Hanson W. Baldwin, military editor of the *New York Times*, has put it, to the "hangman's noose of scholarship." From this noose he advises historical writers to free themselves, on the ground that too much research makes them unable to select and summarize. Our policy is (a) to check all facts that can be checked, particularly those in dispute; (b) to use precise references to official documents when such documents exist; (c) to use such periodical references as are available; and (d) thereafter to rely for the story on the man who was there, even though his recall be less than total.

Having done these things, we follow the advice of the late Bernard De Voto, himself a Pulitzer Prize winner in history, who wrote that "compulsiveness about unimportant error" and "peripheral editing" were faults to be sternly resisted. "Small errors of fact, small misstatements, small misconceptions," he said, exist in every manuscript. "Some of them will result from the author's inadvertence and others from his blithe ignorance—and *they do not matter in the least*" (italics mine). If that eminently sensible policy had been followed at all stages of this history, we should be much further along with it.

6. Processing through channels. When a volume of this history undergoes publications editing, the process takes several times as long as when a manuscript is processed in a civilian publisher's office. There must be endless checking of names, ranks, titles, places, and dates; coördination of the material with various other offices; then approval by the Publications Branch, Office of the Adjutant General of the Army, in which there is no medical representation; and, finally, delivery to the Government Printing Office, where routine processes of printing and proofreading are instituted.

Concepts and Conclusions

We have tried to make the volumes of the medical history interesting as well as accurate and informative. Many reviewers have commented on our success in this endeavor. Some of them have become so nostalgic they have almost wished they were back in battle. We have also tried to make these books, as the editor of the First World War medical history put it, "agreeable to the dictates of convenience" and without the "ponderosity" of which he complained in the Civil War histories (and of which most readers complain in the World War I histories he produced).

The series we are preparing is extremely practical. In the years since World War II some medical techniques have changed, though many of the changes are built upon the practices of World War II. The medical and surgical principles set forth in these volumes, however, remain substantially unchanged. The vast experience of World War II justifies conclusions, and

(Continued on page 66)

PRESIDENT'S PAGE

AN IMPRESSIVE GALLERY

Members who have visited the Society's building have observed in the Secretary's office a collection of photographs of Past Presidents since 1938. They must have been impressed, as I was, with the caliber of men who have held the highest office in the Society for nearly a quarter of a century. One might say it was as if ordained that the chosen leaders of our organization be among the best available.

Naturally, I am only too aware of the high standards set by my predecessors. However, I can assure the membership of our Society that if time, effort and thought will do the job, they can count on me. Of course, conduct of the Society's affairs is not a one-man task. Committees for the coming year have just been appointed. I look to them to help me make this a successful year.

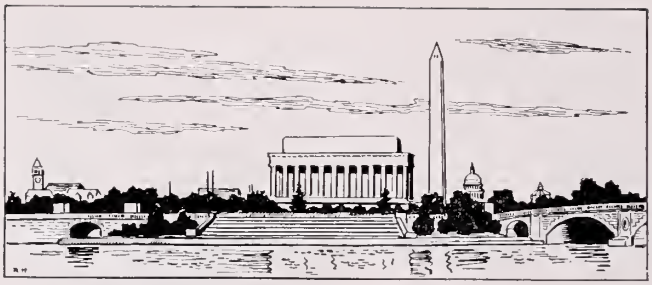
As always, there are many problems to be met. Some of these are much more acute than in the past. If all of those responsible for the Society's program dedicate themselves to the task, I am certain that not only obstacles facing us will be overcome but substantial progress will be made.

Just one more thought I should like to leave with our members in my first President's Page, and that is that ours is the key Medical Society in the United States. Whatever we do in the Nation's Capital will affect the medical profession nation-wide. Our actions, therefore, have wider repercussions than most of our members realize. It is, therefore, incumbent upon us to act wisely and to do what we can not only in the interest of the profession but that of the public.

J Spencer Dryden

JAMES SPENCER DRYDEN, M.D.

President, The Medical Society of the District of Columbia, 1962



EDITORIALS

James Spencer Dryden, M.D.

On January 1, 1962, Dr. James Spencer Dryden took over the reins of the Medical Society of the District of Columbia as its 95th President. A native of Virginia, he is well known to the medical profession of Washington as one of the city's leading ophthalmologists. He is also widely recognized for his capabilities as an able leader in medical and civic affairs.

Dr. Dryden was born in York County, Virginia, on January 10, 1910. He received his early education in his home state. His premedical education was obtained at William and Mary College and his medical degree at the Medical College of Virginia, in Richmond, from which he was graduated in 1933. An internship at St. Vincent's General Hospital, Norfolk, Virginia, was followed by a residency in ophthalmology in the Hospital Division of the Medical College of Virginia.

Dr. Dryden was licensed in the District of Columbia in 1945, following four years' active service in the Army Medical Corps, from which he was separated with the rank of Lieutenant Colonel. In the years which followed he has conducted a very successful practice in Washington. He was chairman of the Department of Ophthalmology, Washington Hospital Center, and later President of its medical staff. He heads the Department of Ophthalmology at Doctors Hospital.

Other positions he has held are President of the Alumni Association of the Medical College of Virginia and Chairman of the Section on Ophthalmology of the Medical Society of the District of Columbia. He is at present a member of the Board of Trustees of the National Medical Foundation for Eye Care.

Among the organizations to which he belongs, in addition to the District Medical Society, are the American Medical Association, American Academy of Ophthalmology and Otolaryngology, Washington Medical and Surgical Society and the Southern Medical Association. He is a diplomate of the American Board of Ophthalmology.

Dr. Dryden is the outdoor type. He is an ardent hunter and fisherman, and when the opportunity offers he leaves his office for the open country. In addition, he is a tireless water skier, a sport which he enjoys immensely but at which he protests he is not expert.

Those who know Dr. Dryden best admire him as a man of high ideals and unquestioned integrity. Unpretentious, he possesses an infectious sense of humor and a manner which puts those who meet him completely at ease. He takes a deep interest in his church, having been an active member of the Bethesda Presbyterian Church for many years.

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

Dr. and Mrs. Dryden, the former T. Inez Mitchell, have four children: Sandra, a graduate of the Rhode Island School of Design, who is now engaged in textile design in New York; J. Spencer, Jr., a senior at Walter Johnson High School, Bethesda; Joy, a sophomore at the same school, and Kay, who is a student at Western Junior High School.

Down's Syndrome (Mongolism)

For many years dissatisfaction has been deeply felt with the term "mongolism" to describe a clinical syndrome which afflicts so many of our children. More recently the significant changes in concepts of etiology and the additional recognition of the very great variations of the condition have given eminent evidence for the need to throw out the term mongolism. In a recent conversation with a distinguished research scientist of Japanese descent at the National Institutes of Health, revulsion at the use of this term, which is degrading and insulting to an entire ethnic group, was heartfeltly expressed to me. Aside from the ethnic considerations, the use of this term has had a heartbreaking and insulting social degrading effect on the parents of these children, which adds further misery and little light to the problem in their social contacts. Furthermore, the misdesignation of this condition as "mongoloid idiocy" has in the past given a nosologic bracket to our ignorance, probably has impeded proper investigation of the condition and given a measure of support to the physician to ignore the multifaceted problems of the family having such a child by dismissing it with a diagnostic catchword. A recent note by the editor of *The Lancet*[1] indicated his determination to eliminate "mongolism" as a diagnosis, preferring to designate this condition as "Down's syndrome."

Langdon Down,[2] an eminent British neurologist, some 85 years ago first classified this defect, and, in recognition of his observations, it is suggested that the condition be renamed as Down's syndrome. As Ingalls[3] commented in 1952, "Although patently an unjustified, unscientific slur on Oriental peoples, the name (mongolian idiocy or mongolism) has stuck like a burdock in the beard of the Western physician." It is embarrassing to note that another Japanese physician working in this field (E. Matsunaga, in a footnote to an article by Makino, Tonomura and Matsunaga,[4] 1960) found it necessary to indicate his disgust with the term "mongolism." He proposed the use of the term Langdon-Down's syndrome as a substitute. However, since Langdon was Down's middle name, the term "Down's syndrome" seems to be more appropriate. Many research workers currently engaged in the study of this condition have called for the abolition of the term (Allen and others,[5] 1961), and the parent of one of these children wrote a letter to the editor of Lancet[6] and in a rather poignant manner pointed out that his son is no more a "mongol" than some of the authors using the term, although he is afflicted with Down's syndrome. Furthermore, attention is called to the benefits obtained both socially and scientifically by substituting the term Hansen's disease for leprosy.

The history of Down's syndrome (mongolism) is replete with unsuccessful attempts to find a better name for this mysterious condition. Seguin[7] (1866) considered the condition a variation of cretinism and termed it "furfuraceous cretinism," and for a number of years for some completely unknown reason medical students were required to memorize in chart form the differences between cretins and infants with this condition. It is extremely difficult to find any points of similarity between the two conditions which might be observed on a clinical examination. Benda[8] in 1960, as well as in many of his previous publications, argued for the term "congenital acromicria," referring to one of the characteristics of the condition, e.g., the smallness of the parts of the face and head. This term had originally been used by Schuller[9] in 1907 and, although the term is suitable, it has not won favor with clinicians or research workers, possibly because it suggested an endocrinopathy as an etiologic basis. Many endocrinologists vigorously opposed such a term because they objected to the endocrine treatment of patients afflicted with Down's syndrome. Engler[10] in 1949 proposed the term "peristatic amentia" without any signal success because peristatic sounds like peristaltic and does not mean very much, and afflicted persons are not necessarily aments, in addition to the fact that it was based on an erroneous etiologic concept.

Although the term "Down's syndrome" has appeared in the literature on occasion throughout the years, the same journals publish articles under this title as well as articles referring to the condition as mongolism. For example, both titles are listed in the Annual Index of *Lancet.* This scientific journal (*The Lancet*), however, more than any other professional publication, has strongly urged the uniform adoption of the term "Down's syndrome" and recommends its serious consideration by all concerned.

Certainly, every physician who is faced with the unwelcome and unpleasant task of transmitting the diagnosis to parents would prefer to use the term "Down's syndrome," possibly giving rise to some amelioration of the anxiety and depression that are heightened by the term "mongolism." It is hoped that pediatric specialists and research workers will agree with this proposed nomenclature. Just as important to bring about common acceptance would be the uniform agreement by editors of professional journals to appreciate the importance of these considerations by renaming this condition as a further stimulus to adopting this change. Success in this project will not only solve the problem of nomenclature of the disease but will also serve to establish mechanisms which will make it simpler to use the medical literature. The tremendous increased activity in investigation of this condition, which has been stimulated by the significant scientific break-through occasioned by the study of the chromosomal structures of this condition, has resulted in a marked reawakening of investigation of one of the most closely guarded anachronisms in medical history. These investigations give promise of being the opening wedge of studies in depth to the whole field of mental retardation and congenital malformations. It seems clear that more and more reports will be forthcoming concerned with basic etiologic considerations of Down's syndrome and associated conditions. It seems quite important to get our terminology straight and to start this orderly process by eliminating the horrible selection of the term "mongolism."

F. G. B.

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Medical Service Forms

There is still a misconception as to how the forms for services rendered Medical Service subscribers (Medical Service of the District of Columbia) may be completed without the patient knowing what the diagnosis is in cases of cancer and other fatal diseases about which the physician does not want the patient to know. This matter was clarified in the ANNALS in the January 1961 issue after consultation with Mr. George B. McGovern, Executive Vice President of Medical Service. Recently it was suggested that in all cases the physician be the last one to see the forms before they were sent in, which means that the physician's secretary would mail all forms to Medical Service directly from the doctor's office. Actually, in special cases all the physician has to do is to tell the patient to leave his form and that he will complete it when he has time and send it directly to Medical Service. This solves the problem and relieves the physician's secretary of the chore of sending in all forms, to say nothing of saving the expense of the postage and the time required to address and mail the forms.

"Medicine" versus "Internal Medicine"

At a recent meeting of the District of Columbia Society of Internal Medicine a proposal was made in essence that in medical schools and hospitals the designation "Department of Medicine" be changed to "Department of Internal Medicine." There ensued quite a discussion, the objectors maintaining that in some institutions "medicine" included psychiatry, neurology, dermatology, etc. and that "Internal Medicine" would narrow the field of "Medicine" and detract from its importance. The "pros" were not presented strongly enough. They are these: All physicians are doctors of medicine and practice medicine. The public thinks of physicians as practicing medicine no matter what their specialty—internal medicine, surgery, obstetrics, et al. When we (the editorial "we") were head of the Department of Medicine of a medical school and were introduced at a lay gathering as such, someone would say, "Oh, you are the head of the medical school." Our answer was, "No, I am the head of what should be called the Department of Internal Medicine to distinguish that department from the Department of Surgery, the Department of Obstetrics, etc." Then, of course, we had to try to define what Internal Medicine means. That was not always easy. We were at a tea party once upon a time (and it really was a tea party—no liquor served) and were introduced to a bevy of ladies. One asked, "What kind of doctor are you?" We said, "I'm an internist. Do you know what that means?" "Oh, yes," said a little lady, "he's the doctor who sends his patients to other doctors." We agreed that often we did but that sometimes we made a diagnosis ourselves and actually treated the patient. Admittedly, it is understood by physicians that the "Department of Medicine" means "Internal Medicine," but why not call it the "Department of Internal Medicine" and give the public a chance to realize that this is something different from surgery, obstetrics, etc.? We are in favor of the change.

WALLACE M. YATER, M.D.

The proposal to change the name "Department of Medicine" to "Department of Internal Medicine" seems unnecessary and confusing. "Medicine" has long been used to indicate one of the divisions of the practice of medicine. This may seem strange to the laity and may need to be explained, along with other words in our "jargon." Within the profession, however, it is understood. We understand the term "Department of Medicine" as clearly as we recognize the meaning of "Medicine and Surgery" on our licenses. Most Departments of Surgery include the operating physicians, whether specialists in General Surgery or not. Most Departments of Medicine include the non-operating physicians, whether specialists in Internal Medicine or not. If there is a need for a Department of General Surgery or of Internal Medicine, then its formation would indicate a policy change with a restriction of membership, not merely a change in name. Finally, there is no clear definition of Internal Medicine. Until the term is adequately defined it can only be more confusing to substitute it in a title widely used and at least moderately well understood.

Robert R. Montgomery, M.D.

Guides on Permanent Impairment

The fourth in the series of "Guides to the Evaluation of Permanent Impairment," developed by the Committee on Medical Rating of Physical Impairment of the American Medical Association, is entitled: "Guides to the Evaluation of Permanent Impairment—Ear, Nose, Throat, and Related Structures." This guide, like all the others in the series, has been designed primarily for use by physicians. The guides are also of interest to others concerned with the medical, administrative or judicial aspects of programs for the disabled.

The other guides in the series are:

"A Guide to the Evaluation of Permanent Impairment of the Extremities and Back"

"Guides to the Evaluation of Permanent Impairment—the Visual System"

"Guides to the Evaluation of Permanent Impairment—the Cardiovascular System."

The most recent guide, mentioned above, appeared in the August 19, 1961 issue of *The Journal of the AMA*. A limited number of additional copies of these guides may be obtained, without charge, upon written request to the Committee on Medical Rating of Physical Impairment, 535 North Dearborn Street, Chicago 10, Illinois.

Check List for Treatment of Diabetes

Because of its prevalence and chronicity, diabetes mellitus should be the continuing concern of all physicians, regardless of their type of practice. An essential part of treating the condition is teaching the patient how to live with it.

As in any educational program, a systematic approach should be used. Each physician should have certain specific objectives clearly in mind as he teaches his diabetic patients.

To aid him, the American Diabetes Association has prepared the following check list of nine basic elements of treatment which constitutes a minimum program for diabetes management. There are many other aspects of treatment which are not mentioned, but they are not as important as are the following:

1. Diet
2. Urine testing
3. Action of insulin and other hypoglycemic agents
4. Technique of insulin injection and sites for it
5. Care of syringe and of insulin
6. Symptoms of hypoglycemia
7. Symptoms of uncontrolled diabetes
8. Care of the feet
9. What to do in case of acute complications.

This guide is not only of value in the initial education of a new diabetic but can also be most helpful to both patient and physician in the subsequent years of management.

SUBCOMMITTEE ON TEACHING OF DIABETES IN HOSPITALS OF THE COMMITTEE ON PROFESSIONAL EDUCATION, AMERICAN DIABETES ASSOCIATION, INC.

George J. Hamwi, M.D., *Chairman*, Columbus, Ohio

Thomas H. McGavack, M.D., *Vice Chairman*. Martinsburg, W. Va.

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Edwin W. Gates, M.D., Niagara Falls, N. Y.

Robert C. Hardin, M.D., Iowa City, Iowa

Edgar A. Haunz, M.D., Grand Forks, N. Dak.

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

IN & OUT OF FOCUS

By the Observer

29th Annual Scientific Assembly

As has been mentioned before in this column, succeeding ANNUAL SCIENTIFIC ASSEMBLIES vary not only as to content but as to their reception. This year's ASSEMBLY, like its predecessors, had its strong features, and some not so attractive to physicians. For example, attendance at the close of the second day was disappointing. Surprisingly, on the third and last day, when the attendance is inclined to fall off sharply, nearly 300 physicians registered. The only explanation for this is that the scientific program was spotty, some presentations appealing more to doctors than others. This is certainly no reflection upon the Program Committee, which, it was unanimously agreed, had done an excellent job under the chairmanship of Dr. Calvin T. Klopp.

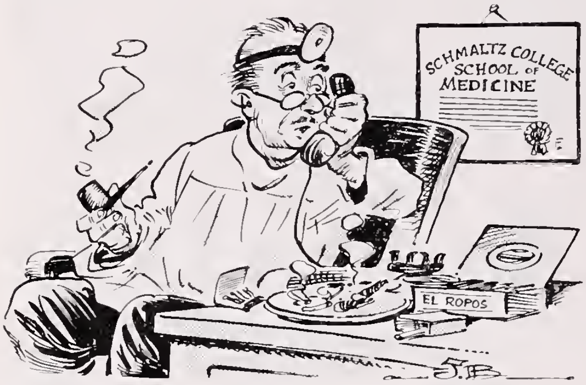
A breakdown of the attendance follows:

Members and Guest Physicians	1,292
Interns	19
Medical Students	115
Nurses	88
Technical Exhibitors	276
Miscellaneous (incl. laboratory technicians, scientific exhibitors, dentists, pharmacists, press, secretaries, wives, etc.)	313
TOTAL REGISTRATION	2,103

Your Observer cannot recall a Scientific Exhibit which received higher praise or attracted more viewers than this year's. The adjective "outstanding" can properly be applied to it, and Dr. Jed Pearson and his committee deserve a great deal of credit. As usual, awards were given for the best displays. Those who received recognition were the following:

First prize: "Variability of the Radiographic Patterns of Pulmonary Histoplasmosis," Joseph W. Peabody, M.D., Sol Katz, M.D., William S. Lyons, M.D., and Edgar W. Davis, M.D.; second prize: "The Use of CR-51 Labeled Red Cells for Blood Volume Measurements in Obstetrics, and Its Use with a Portable Surface Counter for Prepartum and Intrapartum Localization of the Placental Site," Edward E. Gahres, M.D., Solomon N. Albert, M.D., John D. Paul, Jr., M.D., Dandridge Terrell, Jr., M.D., and Samuel M. Dodek, M.D.; and third prize: "Recent Advances in Surgical Treatment of Deafness and New Use of Television as a Teaching Aid," Lieutenant B. M. Webb, MC, USN, Commander G. W. Taylor, MC, USN, and Commander E. W. Bird, MC, USN. Honorable mention was given the following: "Conservation of the Diabetic Foot," James M. Moss, M.D., Jerome Shapiro, Pod.D., DeWitt E. DeLawter, M.D., and Donald Lyons, Pod.D.; "Introduction to Colposcopy," George Szele, M.D.; and "Nuclear Origin of Cancer," William R. Duryee, Ph.D., and William P. McKelway, M.D.

Those responsible for the ASSEMBLY always approach the Public Meeting with trepidation. This year there was much optimism because of the subject to be discussed—"What Advice Should Be Given Patients About Smoking?" Your Observer, however, was inclined to be more conservative, having experienced many failures and fewer successes with meetings for lay audiences. Despite his misgivings, he is pleased to report that the audience exceeded his expectations. Attendance was not only substantial but the program received the close attention of the audience throughout. This was largely due to the expertness of Dr. Klopp as the moderator and his panelists, who, without exception, gave a good account of themselves. They were: Dr. Richard H. Overholt, Clinical Professor of Surgery, Tufts College of Medicine, Boston; Dr. Grace L. Stone, Chief, School Health Program, D. C. Department of Public Health; Dr. Andrew G. Prandoni, Associate Clinical Professor of Medicine, George Washington University School of Medicine; and Dr. Michael B. Shimkin, Associate Director for Field Studies, National Cancer Institute, NIH, Bethesda, Md.


SCHMALTZ COLLEGE SCHOOL OF MEDICINE
EL ROPOS
S.B.

"Oh, Mr. Jones . . . Yes, about your smoking . . ."

A Hobby Show has not been held in connection with the Assembly for many years. While not as large and varied as on some previous occasions, it was excellent, nevertheless. There were a number of unique displays, indicating the wide variety of outside interests of physicians.

For several years the technical or commercial exhibitors have been represented at the Assembly by a liaison committee. The purpose of this committee is to indicate the satisfaction or disappointment of exhibitors with the meeting and to offer suggestions. Your Observer and Mr. Lawrence A. Zupan, Exhibit Manager for the Assembly, met with the committee on the morning of the third and last day.

It should be explained that previous liaison committees have rated the Assembly as one of the best state medical meetings in the country. It was, therefore, a disappointment that because of the apparent falling off in attendance up to the point of the conference with the committee, there was not as much enthusiasm for the meeting as in previous years. However, this attitude was undoubtedly mitigated by the substantial increase in attendance on the last day.

As an indication of the difference in the Assemblies and the success of various events, social affairs were on the whole unusually successful. The opening-day luncheon given by the Society attracted nearly 400 physicians and guests. Awards were presented on that occasion by President Donald Stubbs to the following: Certificate for Meritorious Service to Dr.

DR. McLENDON HONORED

Dr. Donald Stubbs (left), President of the Medical Society of the District of Columbia, confers the Society's Certificate for Meritorious Service upon Dr. Preston A. McLendon, Past President of the Society, for his distinguished service to the community and to the medical profession. The presentation was made at the Opening Day Luncheon.

Preston A. McLendon, Past President of the Medical Society of the District of Columbia; John Benjamin Nichols Award to the Honorable Walter N. Tobriner, President, Board of Commissioners of the District of Columbia; and a Special Award to Daughters of Charity, St. Vincent de Paul.

AWARD TO COMMISSIONER TOBRINER

PRESIDENT STUBBS (left) has just presented the JOHN BENJAMIN NICHOLS AWARD, in the form of a plaque, to THE HONORABLE WALTER N. TOBRINER, President of the Board of Commissioners of the District of Columbia. The Medical Society's Committee on Public Information and Education selected Mr. Tobriner as the outstanding lay person to be recognized in 1961 for his many contributions to the health and welfare of the community.

Mr. Robert M. Cunningham, Jr., Editor of *The Modern Hospital*, proved an excellent choice as a luncheon speaker, his subject being "Hospitals, Doctors and Dollars." His appearance was sponsored jointly by the Society and Medical Service of the District of Columbia. Mr. Cunningham's talk will be published later in the ANNALS.

The Community Service Award, established and sponsored by the A. H. Robins Company, Inc. was presented to Dr. Herbert S. Gates at the Public Meeting on the evening of the opening day.

The luncheon given by the George Washington University Medical Alumni Association attracted the largest attendance in many years. The speaker, Dr. Thomas Henry Carroll, President of George Washington University, was warmly received.

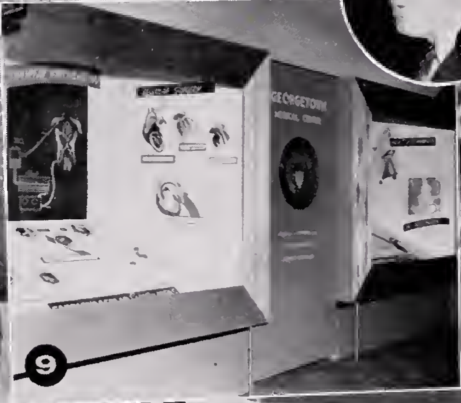
Dr. Joseph H. Roe, Professor Emeritus of Biochemistry, George Washington University School of Medicine, was presented the Medallion and Scroll of the Eloy Alfaro Foundation in recognition of his outstanding contribution to medical science. The presentation was made by Judge Ricardo J. Alfaro, Vice President, World Court of Justice, The Hague, father of Dr. Victor R. Alfaro.

SPECIAL AWARD TO DAUGHTERS OF CHARITY

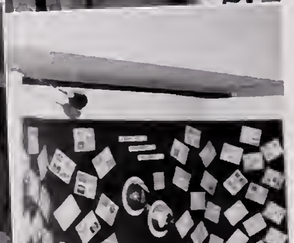
SISTER MARGARET EILEEN, Administrator of Providence Hospital, accepts from PRESIDENT STUBBS a Special Award to the Daughters of Charity, St. Vincent de Paul, which the District Medical Society voted to confer upon this order in recognition of 100 years of charitable service to the community and to the medical profession through its administration of Providence Hospital.

Georgetown University Medical Alumni Association's luncheon also enjoyed satisfactory attendance, and the speaker, The Honorable Brooks Hays, recently appointed Assistant to the President of the United States, gave an inspiring and often humorous address.

The Ninth Annual Dinner for Doctors' Office Staffs is purely a social event. The 350 in attendance this year enjoyed one of the best programs which has been presented at any of these affairs.


GEORGETOWN
MEDICAL CENTER
9

NUCLEAR ORIGIN OF CANCER
12



THESE ARE FOR THE RECORD OF THE 29th ANNUAL SCIENTIFIC ASSEMBLY
(See opposite page)

Miss Lori Wilson, TV and Broadway personality, proved to be an attractive singer of unusual artistic ability. Mr. Alan Black, Harmonica Virtuoso, was in every sense an artist and deserved the ovation he received. Their appearance was underwritten by the insurance firm of Russell, Marsh and Kennedy.

The ASSEMBLY came to a close with the Benefit Dinner Dance, which attracted a considerable number of those who enjoy a good meal and an evening of dancing. Peoples Drug Stores were as usual hosts at the reception which preceded the dinner. Devron's Orchestra provided the music, courtesy of Burton, Parsons and Company.

Mention has so far only been made of the chairmen of the Program and Scientific Exhibit Committees. Other chairmen who really deserve recognition for their invaluable services were: Dr. George William Ware, Social Affairs; Dr. James E. Fitzgerald, Finance; Dr. Kenneth L. McCoy, Motion Pictures; Dr. William F. Burdick, Attendance; and Dr. Harry Douglas, Hobby Exhibit.

Above all, Dr. Seymour Alpert, General Chairman of the Committee on Arrangements, is entitled to the highest praise. He was tireless in his efforts to make the ASSEMBLY a success.

As everyone expected, President Stubbs performed in the expert fashion expected of him. Very few physicians in your Observer's experience have been his equal as a speaker. The Society can be proud of such a gifted leader.

PICTURES ON PAGE 44

The 29th ANNUAL SCIENTIFIC ASSEMBLY of the Medical Society of the District of Columbia, which was held at the Hotel Statler-Hilton, November 27, 28 and 29, was outstanding for its program and scientific exhibits. Largely responsible for the success of the meeting were the President of the Society, DR. DONALD STUBBS; the General Chairman of the Committee on Arrangements, DR. SEYMOUR ALPERT; and the Executive Director of the Society, THEODORE WIPRUD. The program itself was the responsibility of DR. CALVIN T. KLOPP and his committee, while credit for the Scientific Exhibit went to DR. JED W. PEARSON, JR., and his co-workers.

The story of the ASSEMBLY is shown here by pictures of participants and various activities:

(1) DR. ZIGMOND M. LEBENSOHN, who moderated a panel discussion on the use of tranquilizers and antidepressants;

(2) DR. ALPERT, DR. STUBBS, and MR. WIPRUD, three principals at the ASA;

(3) LAWRENCE A. ZUPAN, Assistant Secretary of the Medical Society and Exhibit Manager, with DR. PEARSON;

(4) THE HONORABLE BROOKS HAYS, Assistant Secretary of State for Congressional Relations, who addressed the Georgetown University Medical Alumni Luncheon;

(5) DR. THOMAS HENRY CARROLL, President of George Washington University, who addressed the GW University Alumni Luncheon;

(6) PRESIDENT STUBBS at the microphone;

(7) DR. STUBBS (left) and the First Award winners in the Scientific Exhibit: DR. JOSEPH W. PEABODY, JR. (center) and DR. SOL KATZ; Drs. William S. Lyons and Edgar W. Davis, co-exhibitors, were not present to be photographed;

(8) Present to receive Second Award in the Scientific Exhibit from President Stubbs were (left to right): DR. EDWARD E. GAHRES, DR. STUBBS, DR. SAMUEL M. DODEK, DR. SOLOMON N. ALBERT, AND DR. JOHN D. PAUL, JR., all of the Washington Hospital Center staff;

(9) An attractive exhibit from Georgetown University Hospital on "Frontiers in Cardiovascular Surgery"; exhibitors: Drs. Hufnagel, Gillespie and Conrad.

(10) The speaker at the Medical Society's Opening Day Luncheon, ROBERT M. CUNNINGHAM, JR., Editor of *The Modern Hospital*;

(11)The Registration Section, "manned" by the Medical Society's office staff;

(12) One of the Honorable Mention exhibits, "Nuclear Origin of Cancer," presented by (left to right): DR. WILLIAM P. MCKELWAY and DR. WILLIAM R. DURYEE of George Washington University Hospital; they are being congratulated by PRESIDENT STUBBS and DR. JOSEPH H. ROE, George Washington's Professor Emeritus of Biochemistry, who was himself honored at the GW Luncheon, November 29, when he received the Eloy Alfaro Foundation Medallion and Scroll;

(13) DR. PEARSON, Scientific Exhibit Chairman (left), and PRESIDENT STUBBS are pleased to present the Third Award to (left to right): COMDR. E. W. BIRD, MC, USN; COMDR. G. W. TAYLOR, MC, USN; DR. STUBBS; and LT. B. M. WEBB, MC, USN, from the U. S. Naval Hospital;

(14) One of the excellent exhibits in the Hobby Show; shown are beer labels from 'round the world, collected by Dr. Raymond A. Osbourn.

ROBINS AWARD TO DR. GATES

DR. HERBERT S. GATES (left), Chairman of the Medical Society's Traffic Committee, receives the Community Service Award from PRESIDENT STUBBS at the Public Meeting, November 27. Dr. Gates is the first Washington physician to receive the award, established and sponsored by the A. H. Robins Company of Richmond, Va.

There will be no ANNUAL SCIENTIFIC ASSEMBLY in 1962. It will be replaced by the INTERSTATE SCIENTIFIC ASSEMBLY, sponsored jointly by the Medical Society of Virginia and the Medical Society of the District of Columbia, and will be held on October 15, 16 and 17 at the Sheraton Park Hotel.

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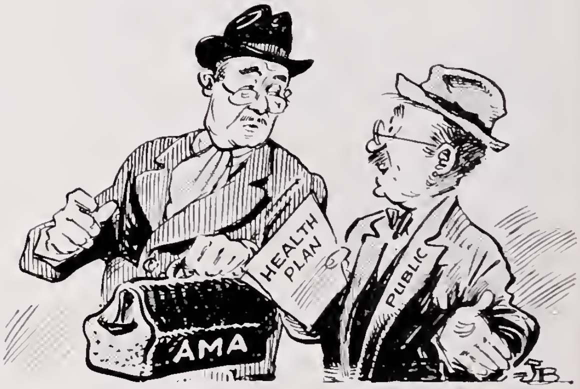
The Society Seeks Action

For some months officers of the Society have expressed disappointment over the failure of the AMA to take vigorous steps to implement the resolution adopted by its House of Delegates in Washington last November directing the Board of Trustees and Council on Medical Service to assume immediate leadership in the development of "the voluntary, nonprofit prepayment concept to provide health care for the American people." (See resolution in the January, 1961 issue of MEDICAL ANNALS, page 36.)

Dr. Donald Stubbs, President of the Society, voiced this disappointment at a luncheon for the press prior to the 29th ANNUAL SCIENTIFIC ASSEMBLY. The meeting had not been arranged for this purpose, but at its conclusion Dr. Stubbs made front-page news when he stated that in the Executive Board's opinion the AMA's efforts in prepayment medicine were lagging. Determined to further clarify the Society's position, Dr. Stubbs at a luncheon on the first day of the ASSEMBLY read the following statement:

"Our Society reaffirms its strong support of local, nonprofit, voluntary prepayment as represented in this area by our own Plan, Medical Service of D. C. Our support of voluntary health insurance goes even beyond this in our sincere coöperation with the insurance companies headed by Aetna and with Group Health Association.

"We still believe that we were right in 1945 when we successfully advocated a position of leadership by AMA in its House of Delegates and again a year ago here in Washington. We are convinced that our urging of more active support at the national level is congenial with the attitude of the big majority of all physicians because they already support their Blue Shield Plans and health insurance companies locally and because their House of Delegates without dissenting vote gave the approval referred to in this city a year ago.



"Think how much more I'd enjoy being sick if it was paid for!"

"The trouble is not with physicians or with their policy-making body but with those who must carry out the directive. While we recognize the enormous and complex demands upon the executive agencies of the AMA, we exercise our right as a constituent society to disagree with their system of priorities and ask to have it modified.

"Therefore, almost at this moment, our representatives are presenting to the House of Delegates of our AMA, meeting now in Denver, another resolution calling for more vigorous implementation of the one already passed on this subject."

The resolution referred to by Dr. Stubbs follows:

"WHEREAS, Voluntary prepayment and health insurance continue to be the desirable as well as the only alternative to a wider governmental role in health care; and

"WHEREAS, It is urgent that this voluntary system be more rapidly expanded to meet its full purpose; and

"WHEREAS, Medical support and leadership are essential to its proper development; *therefore*

"*Be it resolved*, That this House reaffirms its support of the position on prepayment insurance taken last year at the Washington meeting; *and*

"*Be it further resolved*, That the Board of Trustees and the Council on Medical Service are hereby directed to pursue more vigorously the duty placed upon them, and that they are to make a detailed progress report to this House at its June 1962 meeting."

The above resolution received the unanimous support of the House. In a newspaper release issued by the AMA following the Denver meeting the reference to the House's action was summed up in only one sentence: The House "urged more vigorous promotion of voluntary, nonprofit prepayment health plans."

Naturally, newspaper editorial writers were not long in taking note of these developments. Station WTOP, which is owned by *The Washington Post*, editorialized both on television and radio as follows:

"For about 15 years the District Society has been arguing the need for more national conformity and coördination among the AMA, the American Hospital Association, and Blue Cross and Blue Shield. Late in 1960, the Society prevailed upon the AMA's House of Delegates to pass a resolution directing the AMA to assume national leadership toward 'maximum development of the prepayment concept to provide health care for the American people.' Now it turns out that the AMA has been working toward this objective with something less than breath-taking speed. A commission has been formed to promote voluntary plans, but it hasn't met since last May. The excuse given by an AMA spokesman in Chicago is that the organizations concerned have had a difficult time finding dates when the various representatives are free to meet together.

"This station happens to believe that a health program under Federal Social Security is the best answer to the health needs of the growing number of old people. We're willing to concede, however, that this view might be mistaken and that voluntary health insurance—if it is improved enough—may be the best basis for a solution to the problem.

"But we'll never know for certain unless and until the AMA follows the District Society's advice and begins a genuine effort to initiate nationwide improvements in the voluntary system. Lacking such an effort, the impression is created that the AMA either cannot or will not attempt to achieve what is necessary."

The Washington *Star* commented editorially:

"Dr. Donald Stubbs, the President of the Medical Society of the District of Columbia, has every justification for the disappointment he has expressed at the lukewarm efforts made by the American Medical Association to improve and expand programs of voluntary medical and hospital insurance.

"Just about a year ago, at the urging of Washington physicians, the AMA asserted a firm determination to assume leadership at the national level in strengthening the prepayment health insurance movement. Shortly thereafter a joint commission was created for this purpose, representative of the AMA, the American Hospital Association and the Blue Cross and Blue Shield organizations. Well, the commission has met precisely three times—the last time in May—and apparently never has progressed beyond exploratory discussions. According to an AMA spokesman, the commission has experienced difficulty in arriving at satisfactory meeting dates.

"Surely this is as lackadaisical a performance as could be imagined, and one which is thoroughly incomprehensible. For the AMA, in its campaign against compulsory Government programs of medical aid, could find no stronger ally than a more widespread and effective system of voluntary insurance coverage."

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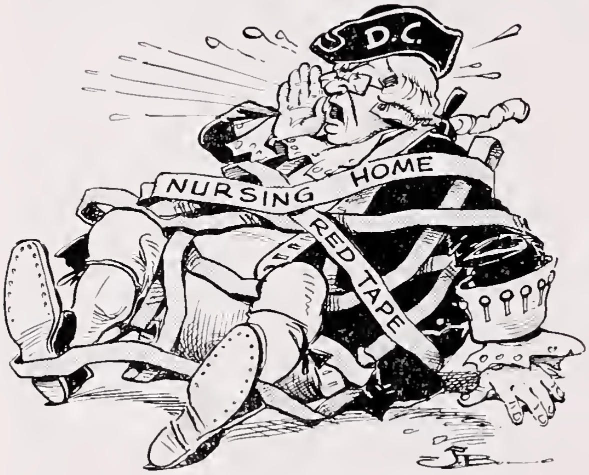
Nursing Homes and Homemaker Services

During the past five years the Society's Committee on Public Health has devoted more time and thought to the District's nursing homes than to any other matter. Numerous meetings have been held with public officials and representatives of nursing organizations in an attempt to improve existing conditions. However, little progress has been made.

At its meeting on September 19, 1961, this subject was again explored. An official of the American Nursing Home Association was present. He informed the Committee that the nursing home situation in the District was chaotic. In no other jurisdiction in the country, he said, did such conditions exist.



"Mr. Tobriner . . . HELP!"

The Committee had long been of the opinion that this was largely due to the fact that too many agencies were involved in licensing nursing homes, the result being that the large majority of homes now operating in the District have been discouraged from seeking licenses. The official of ANHA concurred in this view. In 42 states, he said, State Health Departments license nursing homes. In contrast, there are four agencies directly involved in licensing such homes in the District.

The Committee concluded there would be little improvement until the District's Department of Health is given the sole responsibility for licensure of nursing homes. The Executive Board was of the same opinion and a letter was directed to Walter N. Tobriner, President of the Board of Commissioners, to this effect. Mr. Tobriner replied that the proposal would be taken under consideration; however, he said, it required considerable study because of its complicated nature.

In his report at the Annual Business Meeting of the Society, Dr. James W. Watts, Chairman of the Executive Board, reviewed the situation and submitted the recommendation for the Society's consideration. The Society gave its unanimous approval.

Subsequent to the above meeting a letter was received from Mr. Tobriner stating in part the decision of the Commissioners:

> "After thorough discussion it was the consensus of opinion that little or nothing would be gained in the licensing of nursing homes merely by changing the issuing agent. The same inspections and clearances would have to be met by the various respective Departments responsible for the particular phase of activity. Only in this way can we assure ourselves that proper safety, health and welfare standards are upheld.
>
> "Furthermore, since your proposal would be contrary to the established procedures as set up under present District of Columbia Government organizations, the Commissioners did not concur in your recommendation to place the sole responsibility of nursing home licensing in the Department of Public Health."

That perhaps ends the matter, but it should be pointed out it was not proposed to eliminate necessary inspections but to centralize authority. As it is, nursing home proprietors report they are caught up in needless waste of time and effort.

Prior to receipt of this communication the Committee decided to meet with representatives of the Homemaker Service of the National Capital Area, Inc., which supplies help in the home when it is imperatively required. Supported in part by the United Givers Fund, the Homemaker Service coöperates with the Visiting Nurse Association and other health and welfare agencies in the District.

The Committee met with officials of the Service on December 1, 1961. It learned from them that the services provided by this agency were formerly included in the program of the District's Department of Public Health, which had dropped the project for a lack of funds. The Homemaker Service has been a private organization for the past three years. At the present time the Service employs 19 homemakers for general duty and five for tuberculosis patients. They are all under the supervision of trained social workers.

It might be well to emphasize that the Homemaker Service does not provide nursing care but skilled homemaking services over a limited period, say six to eight weeks.

On the economic side, when it is possible for the individual to remain in the home the overall cost for nurses and homemakers is considerably less than hospitalization and nursing home care. In addition, most individuals thrive better in their own homes if conditions are satisfactory.

Although homemakers are more frequently sent into homes where only token payments can be made, the Service does accept full-pay cases. In fact, its representatives informed the Committee that opportunities for expansion in the field of the care of the aged and chronically ill in the home are limitless. What is needed most are funds for this purpose.

Mention was made of the fact that in New Jersey the Blue Cross pays for home care. It was suggested that this was a matter which might be explored with Group Hospitalization, Inc., which is having its troubles with rising hospital costs.

There were many details of interest in connection with the functions of the Homemaker Service which impressed the Committee. The Chairman inquired of its representatives what the Society, which has already endorsed its activities, could do to help their organization aside from contributing funds, which it is not in a position to do. It was emphasized that the profession's moral support was very much needed. Furthermore, as previously stated, more full-pay patients would help finance an expanded program.

The Committee will meet later on to decide upon its recommendations to the Executive Board.

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Udall Rides Again

Washington newspapers had a field day when Secretary of the Interior Stewart L. Udall opened up on the "vast clutter" of statues in the Nation's Capital which "provide little in the way of a waypost on the road of American history." Mr. Udall was especially critical of the fact that many notables in American history who should have been honored were missing. Among those mentioned by him were Nathan Hale and Thomas Paine.

The press was not long in letting Mr. Udall know that the Hale statue was within a few blocks of his office. Later he was informed of a Floridian who would be glad to pay for a statue of Thomas Paine. What concerned the medical profession was the proposal of the Secretary that the Dr. Benjamin Rush statue be shipped to Dickinson College in Pennsylvania.

The Rush monument was presented to the country by the American Medical Association in 1904. Dr. Rush, as everyone familiar with American history knows, was not only a physician but a member of the Continental Congress and a signer of the Declaration of Independence. His statue was dedicated by Theodore Roosevelt, then President of the United States.

Although at this late date it is not known what role, if any, the District Medical Society played in the raising of funds for the Rush statue, nevertheless, the Society has a keen interest in its proposed removal from Washington.

It has already become clear that Secretary Udall has no jurisdiction with respect to the statue as it is on the grounds of the Navy's Bureau of Medicine and Surgery, over which the Navy Department exercises control. However, Mr. Udall has announced he will exclude it from the parks along Pennsylvania Avenue. One of his assistants is quoted in the press as stating, "If this Department agreed to the many requests to have statues placed along Pennsylvania Avenue, that thoroughfare would become an outdoor Statuary Hall."

The District Society was asked by the AMA what it considered the best location for the statue and it recommended that it be placed at 18th and Pennsylvania Avenue. Now it appears that Secretary Udall will have none of it.

Speaking for the Medical Society, Dr. Stubbs was quoted in the Washington *Star* as follows:

> "As citizens of the District of Columbia, we in the Medical Society are involved in having to submit to intruders from without our area who, like Mr. Udall, from ignorance or from callous disregard of our rights, seek to trample them.
>
> "The statue of Dr. Benjamin Rush was given to the American people more than a half a century ago by the American Medical Association on behalf of the medical profession. It was dedicated by President Theodore Roosevelt.
>
> "Therefore we raise our voices with the many others already heard to keep it in this city so properly concerned with good traditions."

The Washington Post editorialized:

> "The next Congress ought to give to the Fine Arts Commission, or some other appropriate body, definite jurisdiction over Washington's present and proposed monuments. At least it should make it clear to Secretary of Interior Stewart L. Udall that he does not have the disposition of the City's monuments, before he ships the Lincoln Memorial to Springfield, Illinois and sends the Washington Monument to Mt. Vernon. The Secretary's plans to give the Benjamin Rush Monument to Dickinson College exhibits a curious indifference to the fact that this statue is on property not under his Department's jurisdiction, that it was a gift to the Government by the American Medical Association, and that Dr. Rush had a national and international reputation both as a doctor and as a philosopher friend of many of our founding fathers."

As was to be expected, the controversy shortly became the subject of letters to the editor. The Society, too, received communications. An angry woman wrote:

> "May I ask why we have heard nothing in defense of Dr. Rush from the D. C. Medical Society? [She had apparently not seen Dr. Stubbs' statement in the *Star*.] It seems to me to end this controversy started by a silly little boy from Arizona YOU should find a place in the heart of Washington, near your headquarters, for this outstanding statue of an outstanding man.
>
> "Why do I feel strongly about this? When I was a little girl, daughter of a physician and surgeon in Montana, I was told about Dr. Rush and have never forgotten it. He was a great hero of my father. . . ."

The Washington *Star* also commented in its editorial columns as follows:

> "Having conquered Fujiyama, banished the Park Police Chief to Guam, shipped William Jennings Bryan's statue to Salem, Illinois, tilted with George Marshall over his pale-faced Redskins and engaged in other extracurricular activities, the dauntless Mr. Udall was only acting in character when he suggested the removal of the statue of Dr. Benjamin Rush to Carlisle, Pennsylvania. The fact that the Interior Secretary's department has no jurisdiction whatever over the statue would faze anybody but Mr. Udall. We were not too surprised and we cannot get too upset, therefore, over his excursion into the Navy's domain. . . .
>
> "Granting that, in our inexpert opinion, there are some memorials that might better have died aborning, the fact remains that such things should be decided by competent and cognizant authorities. . . .
>
> "We propose that one day, after Mr. Udall and we are gone, a statue be erected in his memory—far from Washington, naturally—showing him riding off in all directions and appropriately listing the diversity of his achievements. That would be the statue to end statues and hence one of which the Interior Secretary ought to approve."

This should be enough to cool off Mr. Udall's ardor. However, your Observer would like to offer this observation: San Francisco is known the world over for its cable cars. They attract thousands of tourists each year. Washington has its public buildings and statuary. These, too, are its special distinction and only experts should tamper with them. Mr. Udall is apparently not qualified.

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Drug Samples

Before these lines appear the so-called Kefauver Committee will be under way again with its hearings on the drug industry. Among the facets which it is anticipated will be explored are the expenditures by drug manufacturers which have previously been the target of attack. The objective: to show how much these have contributed to the high cost of drugs.

In the light of this inquiry, a statement issued recently by the American College of Pharmacists on the "Misuse of Drug Samples" is pertinent. Enclosed with a copy of the statement received at the Society's office was a letter of endorsement signed by Geo. P. Larrick, Commissioner of Food and Drugs, Food and Drug Administration.

The College points out that a large volume of drug samples mailed to physicians by manufacturers accumulate in physicians' offices, especially if they prescribe rather than dispense drugs or if they are not particularly interested in the samples sent them. "There is a kind of natural resistance to destroy drugs," the College states, "especially if they are nicely packaged." Frequently physicians "send their accumulated samples to a friendly pharmacy for disposition."

> "The advent of the 'office nurse' or 'secretary' who carries out the doctor's instructions to dispose of excess samples, literature etc., gave the 'sample buyer' his opportunity. Such people systematically pick up samples at physicians' offices either on the basis of assisting in getting rid of surpluses or of paying for them.
>
> "Evidently, this has grown into a 'business' of sufficient volume to pay to repackage the items and sell them to pharmacists and others who are willing to buy them. This has led to the problem which the Federal Food and Drug Administration is now trying to deal with. As usual, it takes a careless or otherwise culpable physician and an especially culpable pharmacist to convert what has seemed like a more or less innocent sample exchange into a racket potentially dangerous to people who should have the professional protection of both physician and pharmacist.
>
> "Again the decent, self-respecting pharmacist and physician suffer from the carelessness or greed of unprofessional colleagues."

The College is described as a "group of registered pharmacists subscribing to a creed of professional practice which places the safety and protection of the patient before financial reward." Its position in regard to drug samples is summarized as follows:

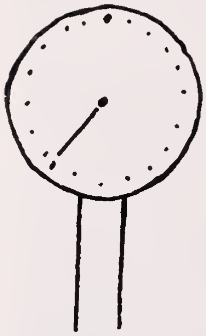
> "1. Prescriptions of physicians and other practitioners are to be filled as written and pharmacists will procure the drugs required from established manufacturing and wholesale channels.
>
> "2. Drugs packaged as physicians' samples, and so marked, are intended for disposition and use by physicians only.
>
> "3. Manufacturers supplying 'samples' or 'complimentary packages' to pharmacists for inspection and education or for convenience in filling early prescriptions of new drugs have direct, clearly defined ways of doing this which involve no contact with third parties, repackagers or counterfeiters.
>
> "4. An ethical pharmacist is suspicious of all drugs offered through irregular channels and refuses to jeopardize the lives, health, safety and other interests of the people he serves. He likewise refuses to sacrifice his own reputation and his relations with legitimate prescribers, producers and purveyors of drugs by dealing with doubtful sources of supply."

Your Observer has no knowledge of the improper disposition of sample drugs in Washington. If there is, it has not come to his attention. It is, of course, true that in the past many physicians have accumulated large supplies of drug samples; in fact, some members of the Society have forwarded their accumulation to the Society for disposition. Where possible these have been sent to countries where there is a shortage of drugs, or to local hospitals.

The AMA House of Delegates had this matter before it in Denver last November. The House agreed with the Judicial Council that "the sale of [drug] samples [by physicians] is unethical."

T. W.

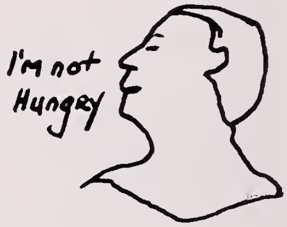
GASTRIC CANCER MUST BE DIAGNOSED BEFORE PHYSICAL FINDINGS APPEAR!



LOSS OF WEIGHT

Bicarb
of
Soda

CHRONIC INDIGESTION



ANOREXIA

THESE SYMPTOMS DEMAND:

G.I. SERIES

GASTRIC ANALYSIS

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District of Columbia Division, Inc.

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EXecutive 3-3690

Proceedings of the Annual Business Meeting

Dr. Donald H. Stubbs, President of The Medical Society of the District of Columbia, presided at the Annual Business Meeting of the Society, which was held in its auditorium the evening of November 15. The Annual Reports of the Chairman of the Executive Board, the Secretary-Treasurer, and the Chairman of the Board of Credentials were approved without reading. The reports were published in the October, 1961 issue of the MEDICAL ANNALS so that members had had an opportunity to study their contents before the meeting.

Dr. James W. Watts, Chairman of the Executive Board, read the Supplementary Report of the Board, which is published following these proceedings. This report covered actions of the Board taken after the October issue of the ANNALS had gone to press. The report as a whole was approved with the exception of Amendment IV to the Constitution and By-laws. Dr. Herbert P. Ramsey moved that this amendment be made not retroactive by adding the following sentence: "The above provisions shall not become retroactive as of their adoption." The motion was carried.

Dr. Frank S. Pellegrini and Dr. Leonard T. Peterson were nominated to succeed themselves on the Board of Trustees of Medical Service of the District of Columbia for a three-year term; Dr. Henry D. Ecker did not wish to be reëlected and Dr. Alfred Brigulio was nominated in his place, also to serve for three years.

Dr. Howard P. Parker was appointed to succeed himself as a member of the Board of Trustees of Group Hospitalization, Inc., for a five-year term.

The membership approved the election of Dr. Janet Travell, Dr. Luther L. Terry, and Rear Admiral Edward C. Kenny as Honorary members of the Society.

ELECTION OF OFFICERS

Dr. Wallace M. Yater, Chairman of the Nominating Committee, was called upon to submit the names of nominees for office in the Society for 1962.

The following slate was presented and unanimously elected:

President-elect: Dr. Karl C. Corley
First Vice President: Dr. Frank S. Pellegrini
Second Vice President: Dr. Naomi M. Kanof
Member of the Executive Board for a four-year term: Dr. Duane C. Richtmeyer
Member of the Board of Credentials for a three-year term: Dr. Luther W. Gray
Delegate to the American Medical Association for a two-year term: Dr. C. Willard Camalier, Jr.
Alternate Delegate to the American Medical Association for a two-year term: Dr. Thomas M. Peery
Alternate Delegate to the American Medical Association for a one year term: Dr. Clifton R. Gruver

Dr. Gruver was elected to fill the unexpired term of Dr. Camalier as alternate delegate to Dr. Raymond T. Holden, senior delegate to the AMA.

Dr. Richtmeyer resigned from the Board of Credentials to accept membership on the Executive Board, and Dr. Yater submitted the name of Dr. William A. Howell to succeed him. Dr. Howell was approved by the members.

Dr. Stubbs called on Dr. James S. Dryden to come to the platform and be recognized. Dr. Dryden, President-elect during 1961, took office as President of the Society on January 1, 1962.

The Chairman next called on Dr. Brooks G. Brown and Dr. Jed W. Pearson, Jr. to escort the new President-elect to the platform. Dr. Corley served for two years on the Executive Board and is familiar with the administration of the Medical Society's affairs.

Members rose to pay silent tribute to the members of the Society who had died during the past year. The list of deceased members was read by the Chairman, who added the name of Dr. Fuad Kaibni who had died only two days prior to the meeting.

The Executive Board elects all members for a year's probationary period, at the end of which time the Society votes on them at the Annual Business Meeting. The Society approved the list of members sent them prior to the meeting, which included 47 Active, 3 Affiliate, 40 Associate, and 9 Resident-Intern members, and they were declared eligible for full membership privileges.

At this point the Chairman turned the meeting over to Dr. Watts, Chairman of the Executive Board, who in turn presented an inscribed gavel as a symbol of the office he was relinquishing to Dr. Stubbs, who accepted it "with great pleasure."

The Chairman requested Dr. Yater and Dr. W. Ross Morris to escort Dr. Victor R. Alfaro, Immediate Past President of the Society, to the platform and presented him with a Certificate of Appreciation for his services during the year 1960. Dr. Alfaro expressed his pleasure at the award, calling it "an extra dividend."

The meeting was attended by 82 Active and Life members. Following the business session those present gathered in the library for refreshments and a pleasant social hour.

Supplementary Report of the Executive Board

This report contains an accounting of the activities and actions of the Executive Board subsequent to the publication of the Annual Report of the Chairman, which appeared in the October issue of the MEDICAL ANNALS. In addition, there are a few items which were not included in the published report for reasons which will become self-evident.

Organization of Group of Physician-subscribers to Medical Service of the District of Columbia. From time to time, members of the Society have urged that an effort be made to organize a group of member-subscribers to Medical Service. A year ago the Secretary reported to the Executive Board that a canvass disclosed that 407 Active members favored an attempt to establish such a group; 109 were against it. The Board authorized that another survey be made to be certain that there were a sufficient number of potential subscribers to meet Medical Service's requirements. The results of the second survey were as follows: 353 favored formation of a group; 81 participated in other health insurance plans; 49 were opposed.

Despite the inconclusiveness of these surveys, the Board voted to approve an attempt to establish a group of member-subscribers to Medical Service. Conferences have been held with Service officials and it has been agreed that an attempt be made to enroll the required number of Active members and their families in February 1962. The response at that time should determine whether a sufficient number of our members are really interested in forming a subscribing group to the Service.

Recommendations re Nursing Homes Situation in the District of Columbia. During the past five years the Society's Committee on Public Health has devoted more time and thought to the District's nursing homes situation than to any other subject. Numerous meetings have been held with public officials and representatives of nursing organizations. However, little progress has been made.

At its meeting on September 19, 1961, this subject was again under discussion. Present was Mr. A. S. Ercolano, Executive Secretary of the American Nursing Home Association. He informed the Committee that the situation as it concerns nursing homes in the District was more chaotic than in any other jurisdiction in the country.

The Committee has long felt this was due to the fact that too many agencies were involved in licensing nursing homes, the result being that the large majority of homes now operated in the District have been discouraged from seeking licenses. According to last reports, only two nursing homes in the District are now licensed. Mr. Ercolano stated that in 42 states State Health Departments license nursing homes. In contrast, there are four agencies involved in licensing nursing homes in the District.

The Committee came to the conclusion that little progress could be made until licensure was placed in the hands of the one and logical agency, the Department of Health. The Board concurred in this view, and a letter was directed to Walter N. Tobriner, President of the Board of Commissioners, to this effect. Mr. Tobriner replied that the proposal would be taken under consideration; however, it required considerable study because of its complicated nature.

Whatever action is taken by the District Commissioners in regard to the nursing homes situation, it would require some months before any results would be evident. For this reason the Committee has under advisement the desirability of giving support to the Homemaker Service, which supplies help in the home where it is imperatively required. This organization is supported by the United Givers Fund and coöperates with the Visiting Nurse Association. The Committee on Public Health will meet with officials of the Homemaker Service early in December for the purpose of ascertaining in what manner the Society can best coöperate.

Nominations to Board of Trustees of Medical Service. At its meeting on October 25, 1961, the Executive Board voted to submit for Society approval the following nominations to the Board of Trustees for a term of three years beginning at the Annual Meeting of Medical Service to be held in April 1962: Drs. Henry D. Ecker, Frank S. Pellegrini and Leonard T. Peterson. Dr. Ecker has been a member of the Board for six years, or two terms, and Drs. Pellegrini and Peterson for three years, or one term. All of them have been able representatives of the Society and have given a good account of themselves. The Board, therefore, nominated these representatives to succeed themselves as members of the Board of Trustees of Medical Service.

Subsequently, the Chairman was notified by Dr. Ecker that if elected he could not serve. The Executive Board, at a special meeting on November 13, voted to submit for Society approval Dr. Alfred Brigulio as Dr. Ecker's successor.

As stated in the agenda, additional nominations may be made from the floor. At the proper time, the President will ask if there are additional nominations.

Appointment of Member of Board of Trustees of Group Hospitalization, Inc. Annually the Society is requested to appoint one of its members to the Board of Trustees of Group Hospitalization, Inc. Dr. Howard P. Parker, whose term expires at the next Annual Meeting of GHI, has served as a member of the Board of Trustees for two terms of five years. Because of his faithful and able service as the Society's representative, the Board recommends that he be appointed to succeed himself.

Amendments to the Constitution and By-laws. Enclosed with the agenda mailed to all Active and Life members were proposed Amendments III, IV and V, as follows:

AMENDMENT III

Article I, Item 6 (Industrial Health), and Article VII, Chapter IX of the Constitution and By-laws are hereby repealed and the following substituted therefor:

Article I, Item 6. Occupational Health.

Article VII. The Committee on Occupational Health shall have supervision over all matters pertaining to occupational medicine.

AMENDMENT IV

Article V, Chapter II, is hereby repealed and the following substituted:

Article V. Associate members shall be doctors of medicine who are not eligible for Active or Affiliate membership, or scientists engaged in medical education or research. Doctors of medicine engaged in private practice outside the District of Columbia are eligible for this class of membership provided they hold full membership in another constituent association of the American Medical Association. Discontinuance of membership in such a constituent association shall automatically terminate the membership in this Society at the end of the current organizational year. Associate members shall have the privilege of attending and participating in scientific sessions of the Society and shall receive its publications and notices of its scientific meetings; they shall not vote or hold office in the Society; they shall be subject to its discipline and pay such dues and assessments as may be imposed by the Society. Associate members, upon becoming eligible for Active or Affiliate membership, shall make formal application for such Active or Affiliate membership. On failure to do so within three months, they shall cease to be Associate members.

AMENDMENT V

Article VIII, Chapter II, is hereby repealed and the following substituted therefor:

Article VIII. Applications for membership shall be made in writing on a form provided by the Society, endorsed by three Active Members of the Society, none of whom shall be a member of the Board of Credentials or the Executive Board, and sent to the Secretary, who shall present their names at a subsequent business meeting of the Society or send a list of their names in writing to Active and Life members of the Society. All applications shall then be submitted to the Board of Credentials who shall inquire into the standing of each applicant. After the lapse of two months within which members of the Society may register their approval or disapproval of any applicant, the Board of Credentials shall report in writing to the Executive Board recommending the election of satisfactory applicants. The Executive Board, within thirty days, shall vote upon the election of each applicant and by majority vote may elect the applicant to membership for a period of one year. After election each applicant shall, within three months, sign an obligation to be governed by the Constitution and By-laws of the Society and pay the dues for the current calendar year. On the expiration of the one-year period of membership, the Executive Board shall report thereon to the Society and the Society may by a majority vote elect each one-year member to full membership in the Society.

Amendment III will change the name of the Committee on Industrial Health to that of Committee on Occupational Health. The reason for this change, which was recommended by the Committee, is that the name would indicate the broader scope of the Committee's activities.

The purpose of Amendment IV is to limit Associate membership to physicians and scientists engaged in medical education or research. There have recently been objections to the election of nonmedical persons as Associate members, i.e., dentists, veterinarians, podiatrists and others in allied health fields. Some of these have been Associate members of the Society for 25 years or more. Amendment IV would limit those eligible for Associate status largely to physicians not having offices in the District or who are full-time members of medical school faculties or who are not licensed in the District. Medical schools and research institutions might possibly include a very few non-physicians who would be eligible for Associate status.

The purpose of Amendment V is to eliminate the word "Active" where indicated by an asterisk so that the provisions would be more inclusive.

"Health-USA" Awards. Upon invitation of the Metropolitan Washington Board of Trade, the Executive Board agreed to joint sponsorship of the first "Health-USA" Awards Luncheon in 1958. Its purpose was to recognize outstanding contributions by physicians or laymen in the health field. The recipient of the initial award was Dr. Leroy E. Burney, Surgeon General of the Public Health Service and President of the Eleventh World Health Assembly.

Since that time the luncheons have become annual events. Those honored at these luncheons have been: Senator Lister Hill (1959); Major General Howard McC. Snyder, MC, USA, Physician to the President of the United States (1960); Mr. Elmer H. Bobst, Chairman of the Board, Warner-Lambert Pharmaceutical Company (1960); Dr. Donald H. Stubbs, Chairman of the Board of Trustees of the National Blue Shield Plans (1960); Dr. James A. Shannon, Director, National Institutes of Health (1961), and Dr. William B. Walsh, founder and President of Project HOPE (1961).

From the standpoint of attendance, the luncheons have been highly successful, although there has always been a deficit. In the matter of efficiency of organization and method of selecting recipients of the Awards, representatives of the Medical Society felt the undertaking left much to be desired.

In a memorandum to the Society's Executive Board they urged that changes be made in the conduct of the luncheons and the selection of recipients of the Awards if the Society was to continue as a joint sponsor. It was proposed that the luncheons be placed in the hands of an Executive Committee. Further, that the selection of awardees be turned over to a prominent group of physicians, scientists and laymen chosen by the Society and the Board of Trade.

These changes have been agreed to by the Board of Trade, and the Executive Committee of the "Health-USA" Awards has been appointed. Dr. Richard T. Sullivan, formerly Chairman of the Board of Trade's Public Health Committee, has been designated Chairman. The Society's representatives will be Drs. Oscar B. Hunter, Jr., W. LeRoy Dunn, and Milton M. Greenberg.

The Committee to select recipients of awards has not been chosen, the Board wishing more time to consider its recommendations.

Medical Service in the Event of Disaster. One of the most active committees of the Society has been the Committee on Emergency Medical Service of the Washington Metropolitan Area. It has in many respects had a very frustrating assignment because of the frequent changes in the program of Civil Defense. However, it has made valuable contributions, such as the organization of the Medical Emergency Disaster Service (MEDS) organized to cope with injuries as the result of a natural disaster.

Recently the Committee developed a program which is described in the November issue of the MEDICAL ANNALS under the title of "Doctors' Disaster Orders." The Committee discarded any plans for a large scale formal organization to meet any disaster such as one due to enemy attack. It has now come up with what seems to the Executive Board a more practical and common-sense program where physicians in private practice are concerned. They are being given instructions to go to designated casualty treatment stations for supplies, and whichever doctor is first on the scene of disaster will take charge until he is relieved by a responsible official. Local hospitals, it is pointed out, have their own disaster plans and the Society's program does not involve them.

If the City should be evacuated, the physician is instructed to take the supplies available to him along the designated evacuation route.

No one knows, of course, how workable any program may prove to be, but again this one seems as practical to the Board as any yet suggested.

Each member of the Society will receive with his membership card this year the various places at which he can obtain supplies for the treatment of the injured or ill in the event of a disaster.

There is another plan which will soon become operative, and that is what is known as the Medical Self-help Training Program. The purpose of this project, which is jointly sponsored by the Public Health Service and the American Medical Association, is to instruct people in the use of what might be described as a "training kit." The object is to prepare the Nation's population in basic health survival principles in times of disaster when a physician is not available.

MEDICO. Officers and members of the Board have long recognized the splendid work of MEDICO. They have been proud of members of the Society who have volunteered to go abroad and give of their services.

As an indication of its feeling in the matter, the Board, at its meeting on October 25, directed the Secretary to prepare a suitable resolution to be submitted at the Annual Business Meeting commending members of the Society for participation in this "noble effort."

The resolution reads as follows:

"WHEREAS, The humanitarian efforts of physicians are respected by men everywhere; *and*

"WHEREAS, MEDICO has carried such services to the far corners of the earth; *and*

"WHEREAS, Increasing numbers of our own members are joining this worthy cause, *therefore*

"*Be it resolved*, That the Medical Society of the District of Columbia records formally its full support of MEDICO as an expression of our willing service to all men, *and*

"*Be it further resolved*, That this message of commendation be given especially to our colleagues who thus with their own hands serve their fellow men."

Election of Honorary Members. The Board is pleased to propose for election the following physicians who have attained eminence in the profession:

Dr. Janet Travell, Physician to the President of the United States. Dr. Travell is not only the first woman but the first civilian to hold this post. She has become so well known to you that a detailed biographical sketch is not necessary. It might be mentioned, however, that for some nine years she was Associate Professor of Clinical Pharmacology at Cornell University Medical College. She received her B.A. degree from Wellesley College and her M.D. from Cornell University Medical College. She is now on the faculty of George Washington University School of Medicine.

Dr. Luther L. Terry, Surgeon General of the Public Health Service. Dr. Terry received his B.S. degree from Birmingham-Southern College and his M.D. from Tulane University School of Medicine. As a medical educator he has held many important posts, the most recent at Johns Hopkins University School of Medicine. For some eight years he was Chief of General Medicine and Experimental Therapeutics Branch, National Heart Institute, and later was Assistant Director of the Institute.

Rear Admiral Edward C. Kenney, MC, USN, Surgeon General of the Navy. Admiral Kenney received his B.S. degree from Denison University and his M.D. degree from the University of Cincinnati College of Medicine. As an officer in the Medical Corps of the Navy, he has served with distinction. He was awarded the Navy Cross for extraordinary heroism.

Admiral Kenney was a Fellow in Internal Medicine at the Mayo Foundation for Medical Education and Research. Some years later he was assigned to duty as Assistant Chief of the Bureau of Medicine and Surgery for Personnel and Professional Operations. Two years ago he was designated Deputy and Assistant Chief of the Bureau.

Budget for 1962. Each of you received a copy of the estimated budget for 1962. Emphasis should be placed on "estimated" in connection with the budget because in these times both the income and costs of operation are subject to considerable fluctuation.

The Society's books will not be closed until December 31, 1961, following which they will be examined by Wayne Kendrick and Company, Washington, D. C. Public Certified Accountants, which has audited them for some 30 years.

The estimated income from membership dues corresponds very closely with that which was budgeted last year. It would appear from the receipts to date that the actual income from this source will be close to that estimated amount. Unfortunately, the MEDICAL ANNALS did not fare as well in 1961. The income from advertising revenue for the first nine months of the year dropped 27 per cent. It will be noted that the anticipated income of the MEDICAL ANNALS for 1962 will be $53,050. However, expenses, it is estimated, will be $56,735 which will result in a deficit of $3,000. Should the unexpected happen and there is an increase in MEDICAL ANNALS' income, the anticipated deficit will be offset.

You have undoubtedly read about the hearings before the House Committee on Interstate and Foreign Commerce, or what is generally known as the Kefauver Committee. Hearings before this Committee will soon resume. It is the Board's suggestion that you read the comments on these hearings which will appear in the December issue of MEDICAL ANNALS under the caption of "Medical Journal Advertising."

MEDICAL BUREAU'S income will be close to what was anticipated as will its expenses.

Rental derived from efficiency apartments at 1710 M Street, N.W. fluctuates because vacancies occur and apartments are unoccupied for a more or less extended period.

Annually, the sum of $3,000 is being placed in the Building Fund. Whenever it is possible, as stated in last year's report, this amount will be increased.

As will be noted, the estimated net income for 1962, $7,963.00, is modest considering the size of the Society's operation.

Not included in the budget are capital expenditures such as the installation of the new amplifying system in the auditorium. There are other expenditures of this sort which must be made in 1962, such as refurbishing the library.

If any member is interested in details as to income and expenditures, he may obtain this information at the Society's office from the Secretary-Treasurer of the Society.

Future Prospects. You need hardly be told that the Kennedy Administration is committed to amending the Social Security Act to provide medical care for the aged. There were strong indications last year that the legislation known as the King-Anderson Bill might be enacted in the coming session of Congress. It now appears to be uncertain in view of developments abroad. However, in such matters one can never be certain.

The Society is on record as opposed to the King-Anderson Bill. However, President Stubbs, in speaking for the Society, informed Mr. Leo H. Irwin, Chief Counsel, House Ways and Means Committee, that the Society recognizes that there are unmet medical needs; further, that the broad expansion of voluntary health insurance on a national basis would go a long way toward making more medical service available to the population at a reasonable cost.

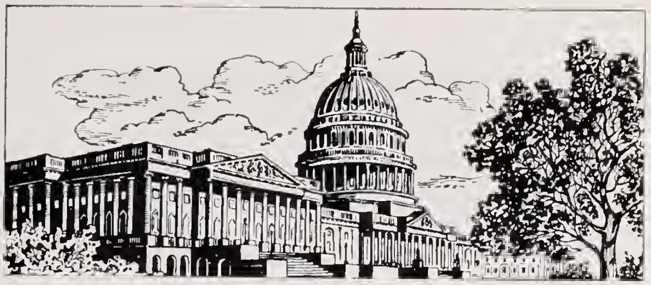
It will be recalled that the Society's delegates, at the meeting of the AMA House of Delegates in Washington last November, urged the adoption of a resolution introduced by them, directing the Board of Trustees to assume immediately leadership in the development of a national voluntary health program. The resolution was included nearly verbatim in a Reference Committee report and adopted by the House.

Unfortunately, little has been done to implement the resolution since that time. This has been of deep concern to the Executive Board and, in its opinion, unless a national program is developed and placed in operation in the very near future, the Federal Government may step in. The AMA has been made aware of the Board's views in this matter.

In the offing is the SECOND INTERSTATE SCIENTIFIC ASSEMBLY sponsored by the Medical Society of Virginia and the Society, which will be held in October 1962 at the Sheraton Park Hotel. The first venture some years ago was such a success that both organizations decided that a repeat performance was in order.

Finally, less than two weeks from now the 29th ANNUAL SCIENTIFIC ASSEMBLY will be held at the Statler-Hilton Hotel. As usual, it will be a three-day session, the dates being November 27, 28 and 29. You have all received a preliminary program. If you have examined it, I am sure you will agree that this will be one of the best meetings sponsored to date by the Society. We will look forward to your presence.

Respectfully submitted,
JAMES W. WATTS, M.D., *Chairman*
VICTOR R. ALFARO, M.D.
J. SPENCER DRYDEN, M.D.
W. LEROY DUNN, M.D.
MILTON M. GREENBERG, M.D.
RAYMOND T. HOLDEN, M.D.
DONALD STUBBS, M.D.
THEODORE WIPRUD, *Secretary*



NEWS & PERSONALS

Meetings

"A New Approach to the Older Patient" will be the theme of the Medical Society's **Tenth Midwinter Seminar.** There will be three evening sessions during February, beginning at 8:15 p.m., in the Medical Society's auditorium.

Dr. Edward L. Bortz, Philadelphia, one of the best qualified physicians in the field of geriatrics, will keynote the opening session on February 12. On February 19 practical medical management will be discussed; the final session, February 24, will consider utilization of paramedical services and other community resources.

All members of the District Medical Society as well as non-members are cordially invited to attend the sessions and inform themselves on this timely subject.

The Walter Reed Army Institute of Research inaugurated a series of staff seminars, November 30, which are open to the medical profession of the Washington Metropolitan Area. Future seminars are scheduled for January 25, March 1, March 22, and thereafter on the fourth Thursday of each month. They will be held in the Sternberg Auditorium at Walter Reed Medical Center at 3 p.m.; programs will be announced.

The St. George Society will sponsor two programs in February, both of them to be held in the auditorium of the D. C. Medical Society beginning at 8 p.m. On February 6, Dr. Stanley Robbins, Associate Director, Mallory Institute of Pathology, Boston City Hospital, Boston, will use for his subject, "A Pathologist Speaks on the Carcinoid Syndrome."

On February 27 the speaker will be Dr. William Dameshek, Director of the Blood Research Laboratory, Pratt Clinic, New England Center Hospital, also from Boston. His subject will be "Leukemia and Auto-immunization."

All interested members of the Medical Society are invited to attend. The meeting will be followed by a social hour in the Library.

The Montgomery County Cancer Society, in conjunction with the **Montgomery County Medical Society,** will sponsor a symposium on aspects of cancer for physicians and other professional persons on Thursday, March 29. The meetings will be held in the auditorium of the Clinical Center of the National Institutes of Health in Bethesda, Md.

A Postgraduate Seminar on Arthritis and Rheumatism will be held at the Hotel Roanoke in Roanoke, Virginia, on April 14 and 15, with nationally known speakers on the program. The Seminar is being planned by the Virginia Chapter of the Arthritis and Rheumatism Foundation, with the coöperation of the Roanoke Branch of the Chapter. The program will be supported by the Merck, Sharp & Dohme Postgraduate Program. The registration fee will be nominal. Reservations should be sent to the office of the Executive Director of the Virginia Chapter at P.O. Box 1004, Lynchburg, Va.

General News

The Executive Board of the Medical Society of the District of Columbia held its regular meeting, November 20, with the Chairman, Dr. James W. Watts, presiding. Dr. Jack Kleh was authorized to attend, as a representative of the Society, the Second National Conference of the Joint Council to Improve the Health Care of the Aged, to be held in Chicago, December 15–16, and the Regional Conference of Social Security Health Care of the Aged, to be held in New York City, December 18.

Dr. Howard C. Pierpont, who had been invited to appear before the Board, reported on his participation in the Medical Self-help Training Program, which was held in Brooklyn, N. Y., October 17–19. At the conclusion of his remarks the Board voted that the Medical Self-help Training Program be approved in principle and referred to the Committee on Emergency Medical Service of the Washington Metropolitan Area for implementation.

The Secretary reported that Dr. Ella M. A. Enlows had sent a check to the Society for $50.00 as a "small token for the many courtesies" shown her by the Society and that he had written to her, expressing the appreciation of the Society for her generosity.

The Section on Ophthalmology and Otolaryngology of the Southern Medical Association announces that it will now accept papers to be considered for presentation at the next annual meeting of the Association in Miami Beach, Florida, November 12–15, 1962. The deadline for papers is May 15, 1962. Further information may be obtained from the Secretary, Dr. Albert C. Esposito, Suite 1212, First Huntington National Bank Building, Huntington 1, West Virginia.

The Clinical Center of the National Institutes of Health has published a new revision of **"Current Clinical Studies and Patient Referral Procedures."** The publication describes briefly the diagnostic requirements, purposes and methods of those studies expected to be most active during the current year. Most of the clinical research programs have been in progress for several years. Physicians desiring a copy of the publication should write to Dr. Jack Masur, Director of the Clinical Center, NIH, Bethesda 14, Md.

Dr. James Q. Gant, who served in 1961 as President of the **Association of the Reserve Officers of the U. S. Public Health Service,** was reëlected President at the Annual Meeting of the Association in Chicago, November 14. Other officers reëlected were Dr. Edward C. Mazique, Secretary, and Dr. Julian Fogel, Treasurer. Dr. Murry Robinson was reëlected Chairman of the Board of Governors.

Major General James P. Cooney, MC, USA, Ret., is the new President of the **Association of Military Surgeons of the United States,** which closed its 68th Annual Convention at the Mayflower Hotel, November 8.

General Cooney is Vice President for Medical Affairs of the American Cancer Society in New York; he was formerly Deputy Surgeon General of the U. S. Army.

Six Vice Presidents were elected, four of them from Washington, D. C., namely: Rear Admiral Calvin B. Galloway, MC, USN, Assistant Chief for Research and Military Medical Specialties, Bureau of Medicine and Surgery, Department of the Navy; Dr. William S. Middleton, Medical Director of the Veterans Administration; Brig. General Frank E. Wilson, MC, USAR, Executive Vice President, Joint Blood Council, Inc.; and Dr. Luther L. Terry, Surgeon General of the U. S. Public Health Service.

Continuing in office are Major General Thomas J. Hartford, Executive Director of the Association, and Colonel Robert E. Bitner, Editor of *Military Medicine*, published by the Association.

Dr. James Watt, Director of the Division of International Health, Public Health Service, was awarded one of three $5,000 Bronfman Public Health Awards at a general session of the American Public Health Association in Detroit, November 16. Other recipients were Dr. Marcolino G. Candau, Director General of the World Health Organization, Geneva, and Dr. James E. Perkins, New York, Managing Director of the National Tuberculosis Association.

Dr. Watt was formerly Director of the National Heart Institute, which he headed from 1952 until accepting his present position last September.

Dr. Harry H. Kerr, described as the "patriarch of cancer control in Washington," received a special award at the **15th Anniversary Dinner of the American Cancer Society, District of Columbia Division,** at the Shoreham Hotel, November 14. Dr. William P. Herbst, President of the Cancer Society, who presided at the dinner meeting, presented a handsome plaque to Dr. Kerr, which read: "In affectionate tribute to Harry H. Kerr, M.D. for his leadership in cancer control as a founder, active volunteer and wise counselor to the American Cancer Society, District of Columbia Division, Inc., 1946–1961."

The dinner meeting, which was attended by nearly 300 professional and lay leaders in medicine, honored the living founders of the organization, including Dr. Kerr, Dr. Herbst, Dr. Roger M. Choisser, Mrs. J. Clifford Folger, George E. Hamilton, Samuel H. Kauffmann, Dr. Calvin T. Klopp, and Frederick P. H. Siddons. The event was held on the actual anniversary date of the incorporation of the Society in the District in 1946.

Mr. John H. Kauffmann, Business Manager of *The Evening Star*, and son of one of the Society's founders, served as master of ceremonies.

The Research Foundation of Children's Hospital has been awarded a grant by the Epilepsy Foundation for a study aimed at developing a new method of detecting epilepsy in infants. Dr. Reginald S. Lourie, Director of the Hospital's Psychiatry Department, will head the research team. Working with him on the project will be Dr. Sidney L. Werkman, Associate Director of the Department.

Dr. Robert H. Felix, Director of the National Institute of Mental Health, was one of five recipients of the 1961 Rockefeller Public Service Awards, November 17. These awards are made possible by a fund established by John D. Rockefeller III and is administered by the Woodrow Wilson School of Public and International Affairs at Princeton University. Each award carries a cash prize of $5,000.

Dr. Felix, a Kansan and official in the Public Health Service since 1933, has directed the Mental Health Institute since its founding in 1959. The awards represent one of the highest forms of recognition given career and Federal employees.

DR. KERR HONORED BY CANCER SOCIETY

DR. HARRY H. KERR (left) receives a special award from DR. WILLIAM P. HERBST, President of the District of Columbia Division of the American Cancer Society, at the 15th Anniversary Dinner of the Society at the Shoreham Hotel, November 14. Both Dr. Kerr and Dr. Herbst were among the founders of the Society.

At the **58th Annual Meeting of the Graduate Nurses' Association,** Miss Margaret Emanuel was elected President. Miss Emanuel is Director of Nursing at the George Washington University Hospital. Other officers elected were Commander Mary C. Grimes, USN, of the Bureau of Medicine and Surgery, Navy Department, Vice President, and Katherine Ott, with the D. C. Department of Health, Treasurer. Miss Edith M. Beattie continues as Executive Secretary. The organization has a membership of 1,650 professional nurses.

Six principal medical and surgical specialty societies have become officially affiliated with **MEDICO, Inc.,** according to an announcement by the Secretary-General, Dr. Peter D. Comanduras. The affiliate organizations are the American College of Physicians, American College of Surgeons, American Psychiatric Association, American College of Radiology, American Academy of Physical Medicine and Rehabilitation, and American Academy of Pediatrics.

At present MEDICO has 17 projects being operated by teams of American physicians and nurses in 12 countries of Africa, Asia, Latin America, and the Near East.

The Department of Occupation and Professions, D. C. Commission on Licensure, Mr. Paul Foley, Deputy Director, has been moved from 1740 Massachusetts Avenue, N.W., to 1145 19th Street, N.W., on the eighth floor of the Association Building. The telephone number is still National 8-6000, extension 543.

Personals

Dr. Wilder P. Montgomery, Clinical Assistant Professor of Medicine at Howard University School of Medicine, has been appointed to the District Board of Police and Fire Surgeons. He succeeds Dr. James A. O'Keeffe, who retired recently. The appointment was made upon the recommendation of Dr. John A. Reed, Chairman of the Board.

Dr. Montgomery is a native of Washington. After graduating from Dartmouth College in 1931, he studied medicine at the University of Chicago, Rush Medical College, receiving his degree in 1935. He enrolled for postgraduate study at the Henry Phipps Institute, University of Pennsylvania, in 1936. The same year he was licensed to practice in the District of Columbia.

Dr. Montgomery has held many positions of public service in the Washington area. He was attending physician in the District Health Department chest clinic from 1936 to 1958; assistant surgeon in the United States Public Health Service Reserve from 1936 to 1941; physician-in-charge of Freedmen's Hospital chest clinic and District Health Department consultant for penal institutions. He was on the Board of Directors of the D. C. Tuberculosis Association from 1949 to 1953.

Dr. Elizabeth Kittredge was cited for highest service to the organization and to women in medicine at the Annual Meeting of the American Medical Women's Association in Cleveland, December 1, 1961. The Elizabeth Blackwell Medal, which she was awarded, is named for the first woman to receive a degree in medicine in the United States. The presentation was made at a luncheon attended by about 100 delegates.

Dr. Kittredge, a graduate of Johns Hopkins University School of Medicine, was editor of the Association's journal for ten years. She has been active in the Child Welfare program of the D. C. Department of Public Health. Also, for many years, she has served on the staff of the Planned Parenthood Association of Washington.

Dr. Kittredge

Dr. Edith Petrie Brown, of Bedford, Ohio, was inaugurated as President of the AMWA. She is a graduate of George Washington University School of Medicine. Dr. Brown succeeded Dr. Claire F. Ryder, a commissioned officer of the Public Health Service and an Associate member of the D. C. Medical Society. Dr. Ruth Hartgraves, of Houston, Texas, was named President-elect.

Medical Women of the Year, selected by various branches of the Association, were recognized at the national meeting and given their awards. Among them were two members of the District Medical Society, **Dr. Janet G. Travell,** Personal Physician to President Kennedy, selected by the New York State Branch, an Honorary member of the Medical Society, and **Dr. June C. Shafer,** dermatologist, of Arlington, Va., an Associate member of the Society and the choice of the Washington Branch of AMWA.

Dr. Sol Katz, Chief of the Medical Service at Mt. Alto Veterans Administration Hospital since 1959, was recently presented a Certificate of Commendation by Dr. Thomas J. Ready, Director of the Hospital, who expressed the highest praise for his work and gratitude for the increased professional stature of the Hospital as a result of his efforts. The citation described Dr. Katz as "that unusual physician—the personification to a supreme degree of the aims of Veterans Administration Medicine—superlative therapeutist, inspired teacher, notable researcher."

Dr. Joseph W. Peabody, Jr. was elected First Vice President of the Southern Chapter of the American College of Chest Physicians at its 18th Annual Meeting in Dallas, Texas, November 4–5, 1961.

Dr. Henry P. Laughlin was elected a Corresponding Member of the British Royal Medico-Psychological Association at its Annual Meeting in Belfast, Ireland, on July 5, 1960. Dr. Laughlin is an Associate member of the D. C. Medical Society.

Founded in 1841, the R.M.P.A. is the oldest national psychiatric association in existence. Each year it has been the custom of this group to select five psychiatrists throughout the world for special recognition.

European Tour 1962

Stimulated by the success of the 1961 European Tour, a second tour for members of the Medical Society of the District of Columbia and their families is being planned. The overseas travel will be by Boeing 707 Jet, leaving New York July 11 and returning from Vienna on August 4. Most of the travel on the continent will be by air to avoid the "travel fatigue" of long train and bus trips. Carefully selected first-class hotels with twin-bedded rooms and private bath will be provided. With one exception (two nights), all stays will be for three nights to permit extensive sightseeing and more free time for personal pursuits. The group will be limited to 40 and will be accompanied by an experienced tour director.

The itinerary will include Zurich, to coincide with the meeting dates of the Fourth Congress of the International Academy of Pathology, London, Paris, Rome with its numerous historic sites, Naples and nearby Pompeii, Capri, the Blue Grotto and the Amalfi drive, Milan, Salzburg with its famous Music Festival, and, as a grand climax, beautiful Vienna. The tour may be extended beyond the departure date of August 4 at the option of any member of the group.

The cost of $1,025.00 per person will include all transportation, hotels, certain meals, sightseeing, and all other services. One important facet of this trip is an opportunity to attend the Salzburg Music Festival. It is absolutely imperative that reservations are made early (preferably by March 1) in order to secure tickets for the Salzburg Music performances. Dr. Lester Neuman is acting as advisor for the entire program. A detailed itinerary and other specific information will be mailed to all members of the Medical Society in mid-January by Travel Consultants, Inc., 1612 K St., N.W., which is arranging the tour. Inquiries should be directed to their office, telephone District 7-9228.

Woman's Auxiliary Notes

The first meeting of the Woman's Auxiliary to the Medical Society of the District of Columbia this fall was held on October 11. The Program Chairman, Mrs. Jonathan Williams, had obtained Dr. Herminio Portell-Vila, formerly Professor of History, University of Havana, Cuba, as the speaker. His subject was "The Plight of the Cuban Physician in Today's Communist Cuba," and the sad and harrowing experiences suffered by the physicians in Cuba, as related by Dr. Portell-Vila, made the doctors' wives grateful and appreciative that such conditions did not exist in our country and made us realize more than ever how important it is that medicine continue to be a free enterprise and not Government-controlled.

At a very well attended November meeting, members heard Marjory Holmes, columnist of *The Evening Star's* "Of Love and Laughter" prescribe. Her prescription for the doctors' wives consisted of a mixture of "love and laughter combined with some seriousness." Her early experiences in becoming a writer were both humorous and sobering. Besides her column for the *Star*, Mrs. Holmes has written books for teenagers and has been a regular contributor to *Today's Health*, published by the AMA. The mother of four children herself, she urged the mothers to censor the movies which their children attend. Protests to the managers of neighborhood movies against the showing of undesirable films for children and teenagers met with success, Mrs. Holmes related.

The WAMS Bowlers held their first Kick-off Luncheon on Friday, October 6, at the Kenwood Country Club. Twenty teams are lined up this year under the chairmanship of Mrs. Alex Leonardo. The Vice Chairman is Mrs. Charles E. Rath; Rules

Chairman, Mrs. Richard Spire; and Social Chairman, Mrs. Roger Williams.

The Eighteenth Annual Conference held in Chicago in October for Presidents and Presidents-elect was attended by Mrs. Leo C. Varden and Mrs. John E. Morris.

The various committee chairmen are making plans for raising money for the coming year and an all-out effort will be made to increase the amount of $1,000 donated to the American Medical Educational Foundation by the Woman's Auxiliary last year. Funds will also be needed to increase and sustain our Nursing Scholarship Fund.

Mrs. Leo C. Varden
President

Obituaries

FREDERICK COLEMAN FISHBACK, A.B., M.D., M.S.

(1898–1961)

Dr. Frederick Coleman Fishback, distinguished Washington surgeon, died November 23, 1961, at his home, 3515 Glenmore Drive, Chevy Chase, Md.

Dr. Fishback was a native Washingtonian, born October 7, 1898, to Frederick L. and Mabel Coleman Fishback. Educated in the public schools of Washington, he was an alumnus of Central High School. He graduated from Harvard University, receiving his A.B. degree in 1919 and his medical degree in 1922. He interned at St. Francis Hospital, Jersey City, N. J., for a year and spent a year at Peter Bent Brigham Hospital in Boston. He also spent a year in residency at Woman's Hospital in New York City and six months at New York Lying-in Hospital. For his postgraduate training in surgery he spent four years, 1925–29, at the Mayo Foundation in Rochester, Minn., where he was awarded his M.S. degree in surgery.

Dr. Fishback returned to the District of Columbia in 1929 to begin his long practice in general surgery; his offices were at 1835 Eye Street, N.W. He was on the teaching staff of Georgetown University School of Medicine as Clinical Associate Professor of Surgery, having served on the faculty since 1929. He was Attending Surgeon at D. C. General, Suburban and Children's Hospitals, and the Washington Hospital Center.

Dr. Fishback was active in many scientific organizations. He had been an Active member of the Medical Society of the District of Columbia since 1929 and for many years was Chairman of its Committee on Public Policy (formerly known as the Legislative Committee). In 1950 he received the Medical Society's Certificate for Meritorious Service. He was a member of the Founders Group of the American Board of Surgery, a Fellow of the American College of Surgeons, a member of the American Medical Association and the American Association for Thoracic Surgery, and member and Past President of the Washington Academy of Surgery. He belonged to the Harvard Club of Washington and the Chevy Chase Club. He was also a trustee at Suburban Hospital and a former trustee of the District of Columbia Tuberculosis Association. He had contributed many articles in the field of surgery to the literature.

Surviving him are his wife, Mrs. Kathaleen Rolls Fishback; a son, Frederick C. Fishback, Jr. of Detroit; and three daughters, Mrs. Margaret Albaugh, of Silver Spring, Md., Mrs. Barbara Wolfe, of Bethesda, Md., and Mrs. Kathaleen Hempstone, wife of Smith Hempstone, correspondent for the *Chicago Daily News*, residing presently in Nairobi, Kenya. He also leaves a brother, James Fishback, of Bethesda, and a sister, Mrs. Margaret Antolini, of New York.

Lobotomy for Intractable Psychosomatic Disorders—Freeman

(*Continued from page 5*)

formidable types, in which disability is complete and life is threatened, lobotomy can set the scene for recovery by "decompressing anxiety." Instances of hypertension, myocardial and valvular disease, peptic ulcer, anorexia nervosa, ulcerative colitis, rheumatoid arthritis, dermatoses, and a variety of other conditions are cited in which lobotomy was undertaken primarily for the treatment of a mental disorder. The somatic component tends to recover when the associated emotional distress is relieved. Only rarely are there permanent disturbing effects upon the social adjustment of the patients.

Patients with severe and disabling psychosomatic disorders are excellent candidates for limited lobotomy because of their high level of intelligence and ambition.

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Conservation Surgery of the Larynx-Trible

(Continued from page 24)

rences in supraglottic lesions, and it would seem that the lack of local recurrence, even in patients with metastases, would justify the local procedure.

If a portion of the hyoid or of one superior laryngeal nerve can be preserved, function returns sooner, but none of the authors mention converting a partial to a total laryngectomy for function alone, although I would presume this has been done.

Summary

Extended partial laryngectomies, which allow removal of carcinoma with conservation of function, are well accepted in the Latin countries. Greater skill and aftercare are required than in total laryngectomies. Objections that these procedures materially lessen the cure rate can be countered only by long follow-up of large series. It is suggested that the long series of the Latin operators and the encouraging early results of the Americans warrant a more widespread use of this limited surgery.

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ECG Changes in Acute Arsenic Poisoning—Barry and Herndon

(Continued from page 27)

gross myocardial lesions in fatal cases compatible with a direct cardiotoxic effect.

Summary

Electrocardiographic abnormalities associated with suicidal arsenic poisoning in three cases have been reported. In addition to nonspecific T inversion, prolongation of the QTc occurred which may be considered characteristic. Although no previous published reports of similar

cases were found, the ECG abnormalities mimic those reported in experimental and human chronic poisoning.

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U.S. Army Medical Department in World War II—Coates

(*Continued from page 33*)

the conclusions drawn from it demand the respectful consideration of all physicians, whether or not they served in the last war. in another war one of the likely battlegrounds will be the United States, and the casualties this time will be on our own doorsteps. These volumes are the basis of the medicine of the future, in which medicomilitary and civilian coöperation will be necessary for the salvage of life and limb and for the protection and maintenance of health and safety under conditions which are, in themselves, an invitation to trauma, disease, and death.

Part of the mission of The Historical Unit, U. S. Army Medical Service, is to make known the existence of these historical volumes. The medical history of the Civil War and the history of World War I, partly because of unwise distribution, partly for other reasons, remained largely unknown, and we learned over again in World War II the lessons set forth in these books. There was tragic loss of time, money and effort, and, I am sure, of lives as a result. This must not happen again.

In 1939 a senior consultant in the British Army Medical Service remarked that the best surgeons of the war which was then so evidently imminent would be those who had read and profited by the medical history of the last war. The medical care of U. S. Army casualties in World War II was superb, but it would have been better earlier in the war if our medical officers had followed this advice. Most of them had not, and this was unfortunate. Medical history is still "the point of departure from which one may set off on the adventure of judgment."

Author's note: Since this article was prepared (August 1961), the sixteenth and seventeenth volumes of this history have appeared.

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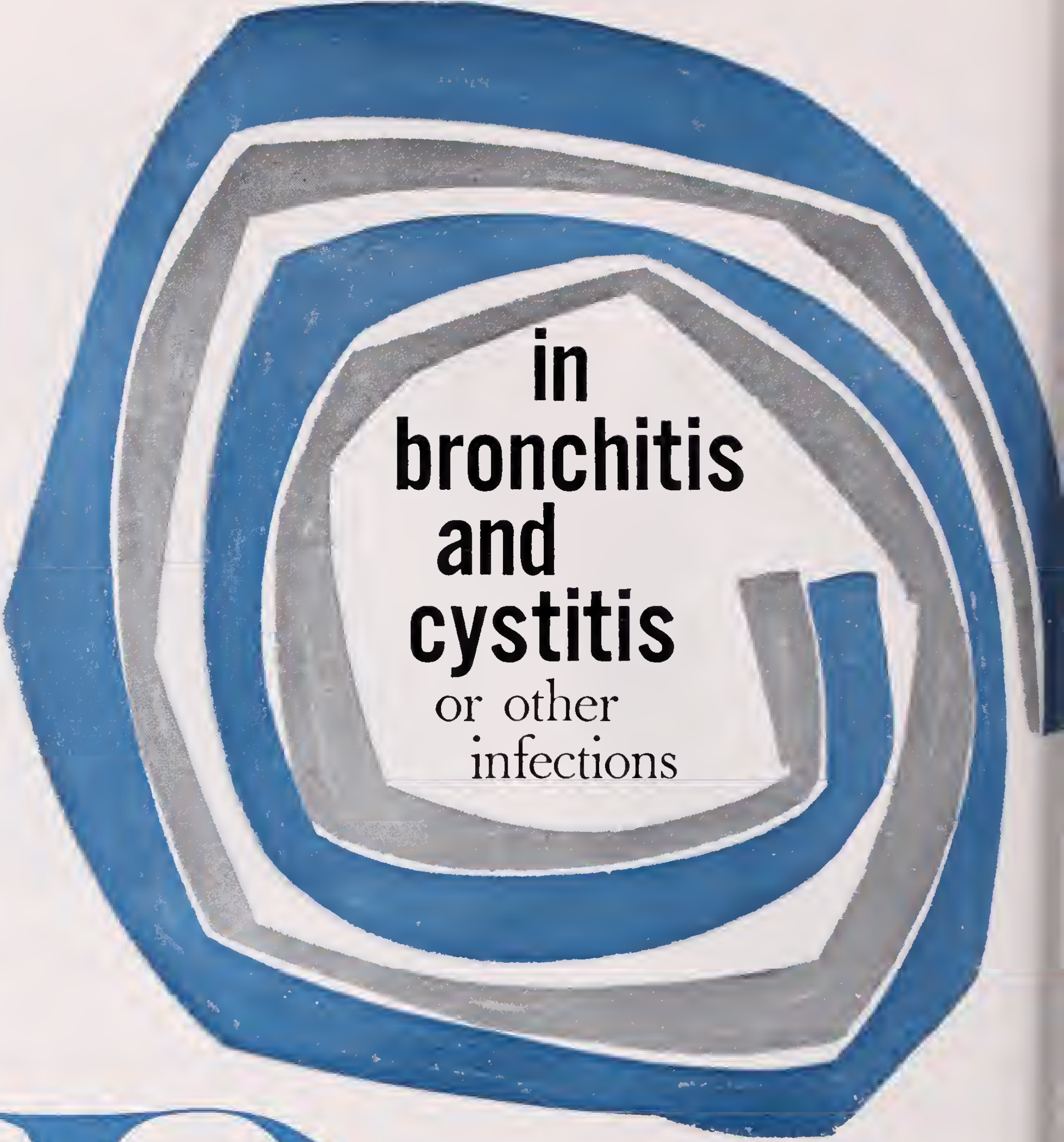

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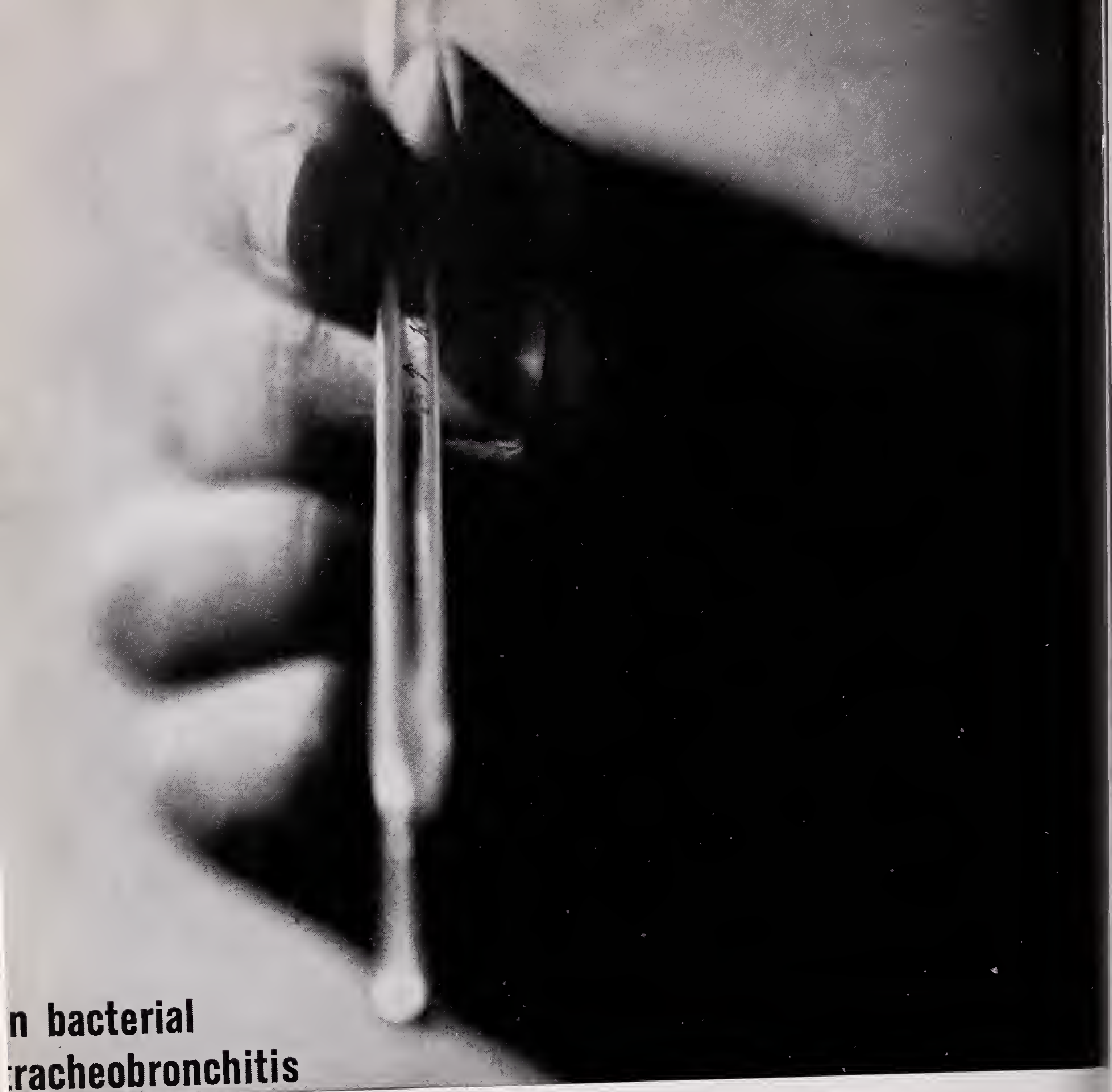

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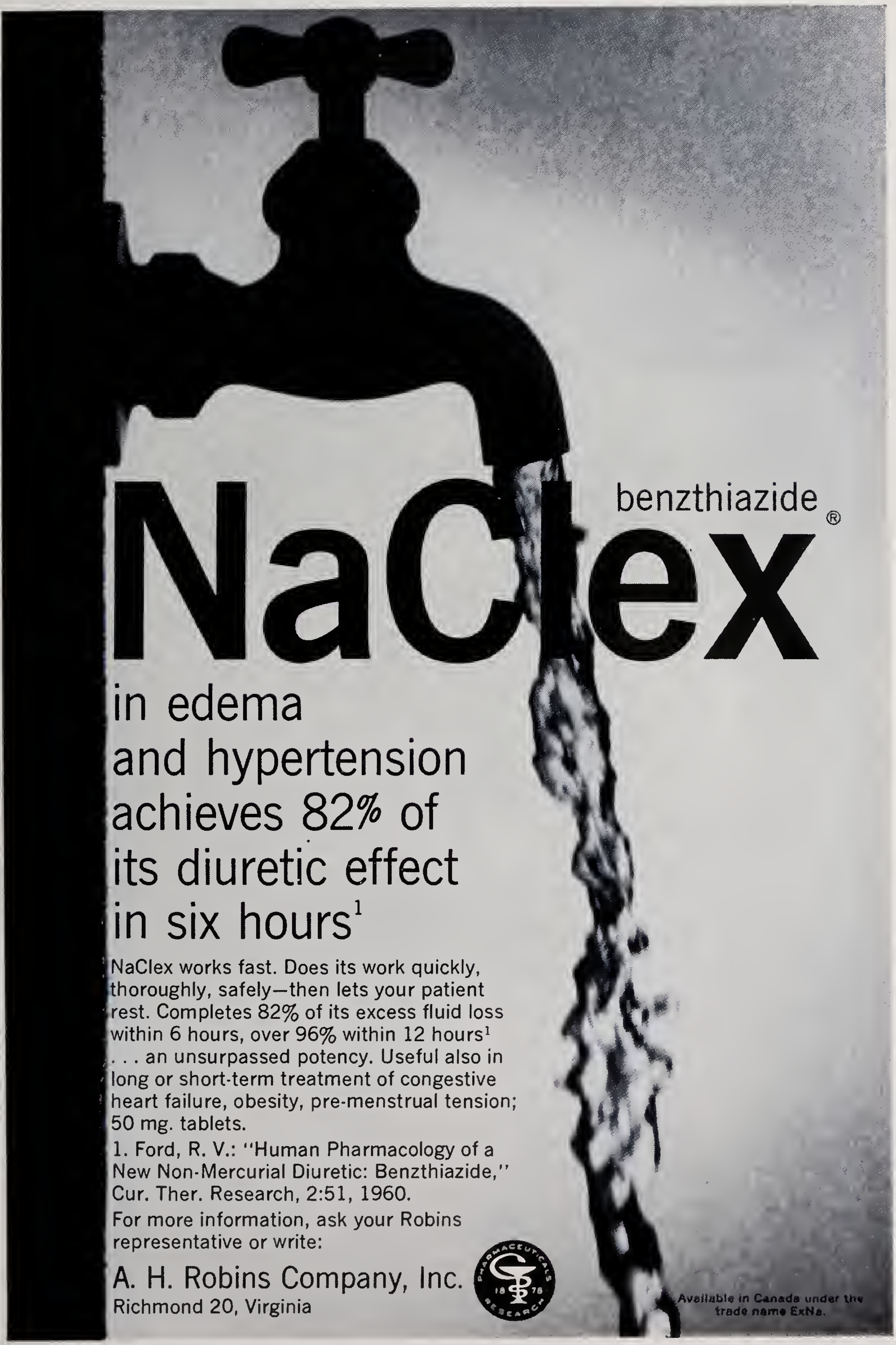

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1. Ford, R. V.: "Human Pharmacology of a New Non-Mercurial Diuretic: Benzthiazide," Cur. Ther. Research, 2:51, 1960.

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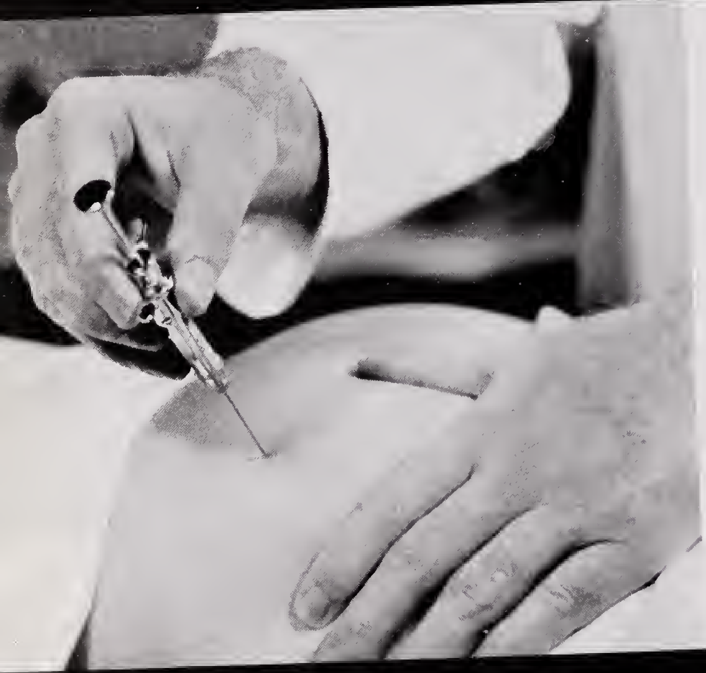

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1. R. Lamb and E. S. Maclean, Penicillin V—A Clinical Assessment After One Year, *Brit. M. J.*, July 27, 1957, p. 191-193. **2.** J. I. Burn, M. P. Curwen, R. G. Huntsman and R. A. Shooter, A Trial of Penicillin V, *Brit. M. J.*, July 27, 1957, p. 193. **3.** J. Macleod, Current Therapeutics, *The Practitioner*, 178:486, April, 1957. **4.** W. J. Martin, D. R. Nichols and F. R. Heilman, Observations on Clinical Use of Phenoxymethyl Penicillin (Penicillin V), *J.A.M.A.*, p. 928, March 17, 1956.

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(1) Danowski, T. S.: Diabetes Mellitus, Baltimore, Williams & Wilkins, 1957, p. 239. (2) McCune, W. G.: M. Clin. North America 44:1479, 1960. (3) Ackerman, R. F., et al.: Diabetes 7:398, 1958.

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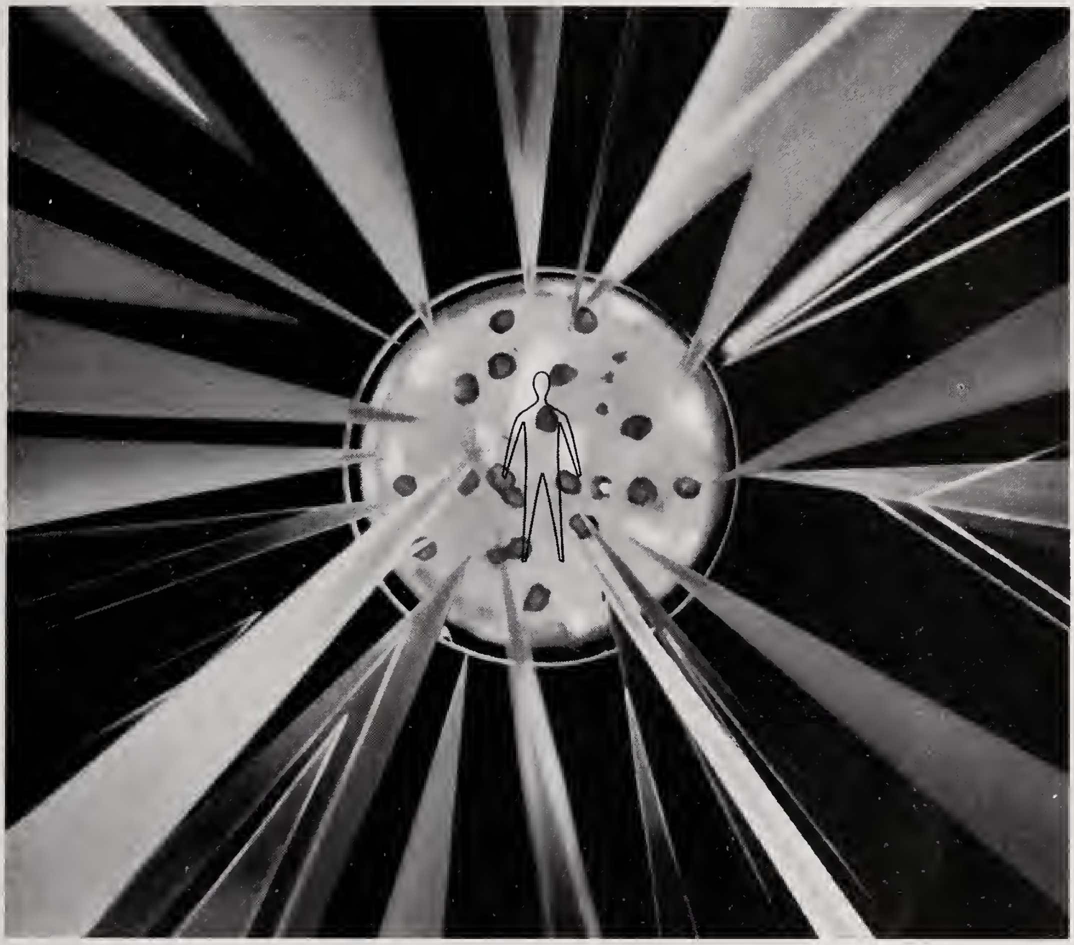

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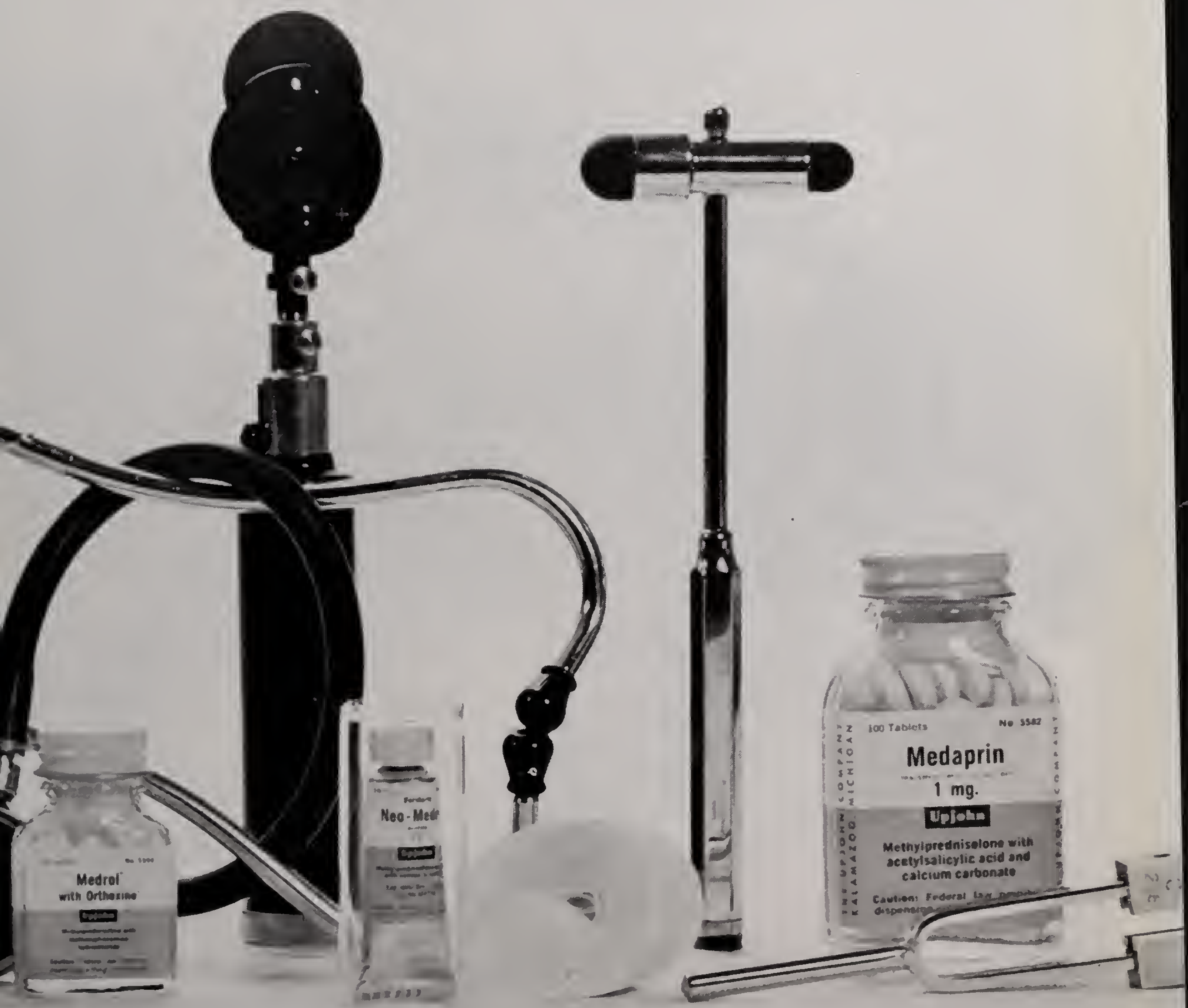
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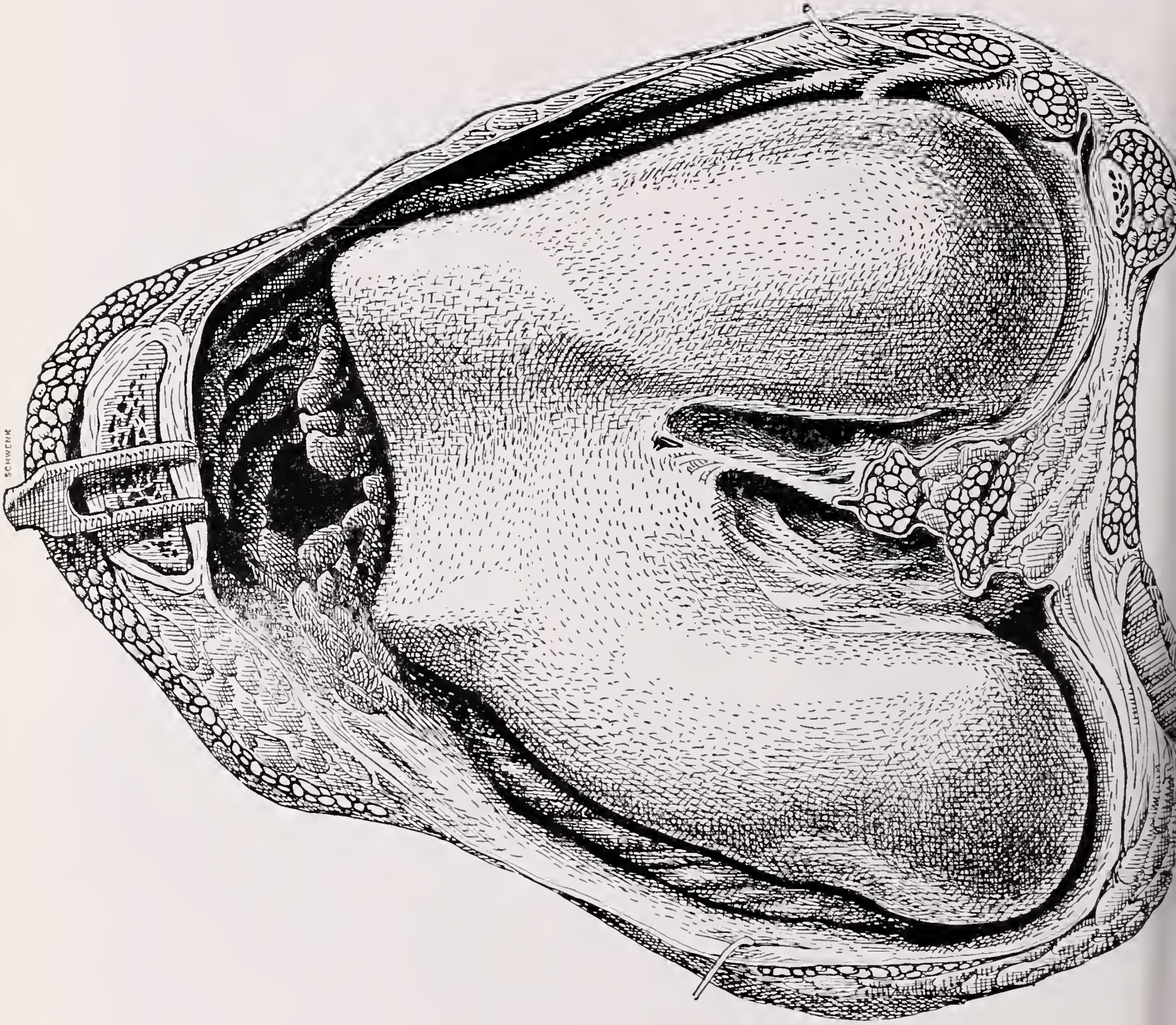

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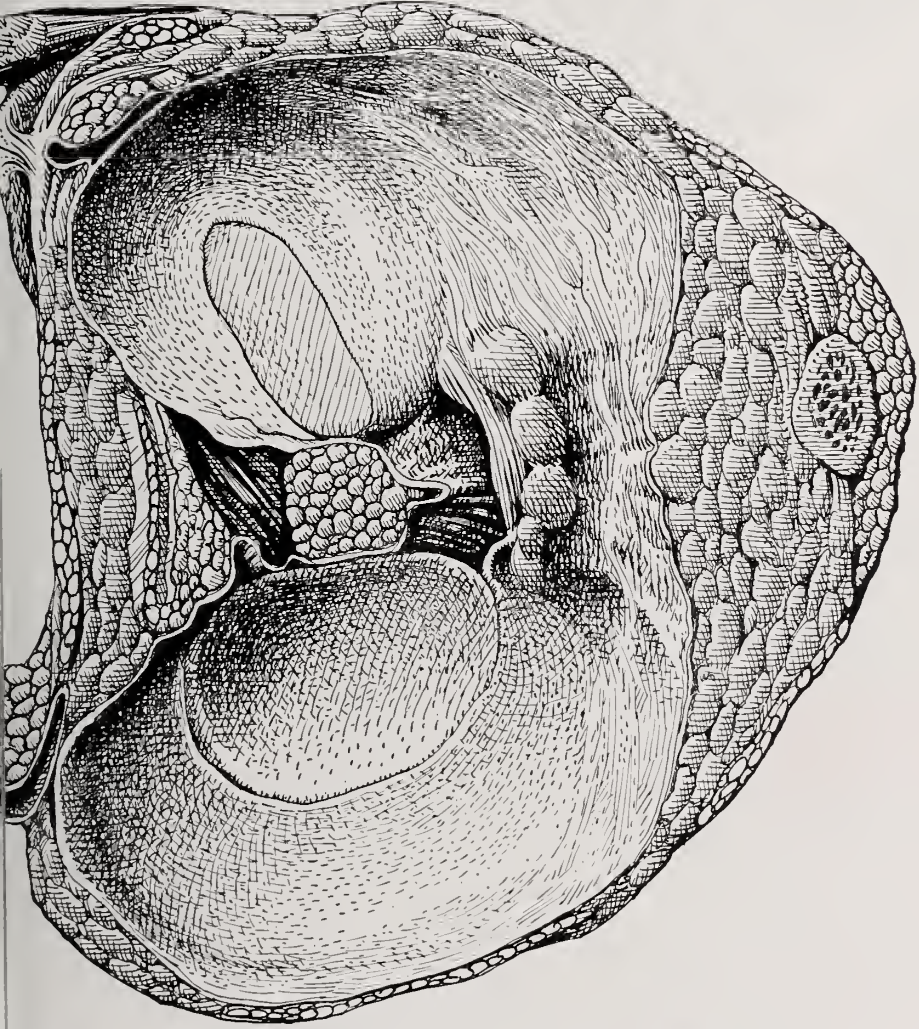

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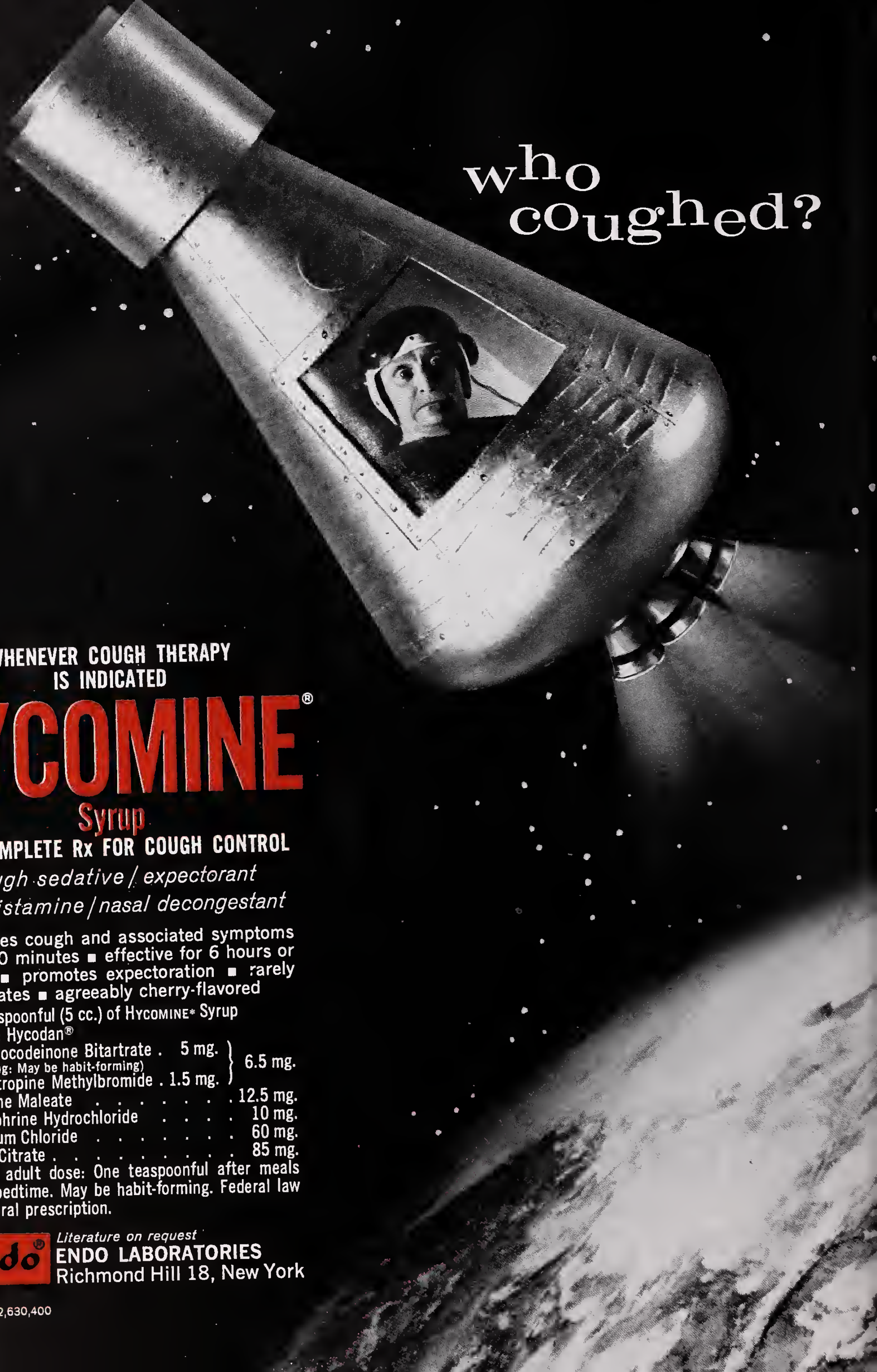
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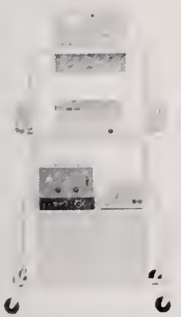

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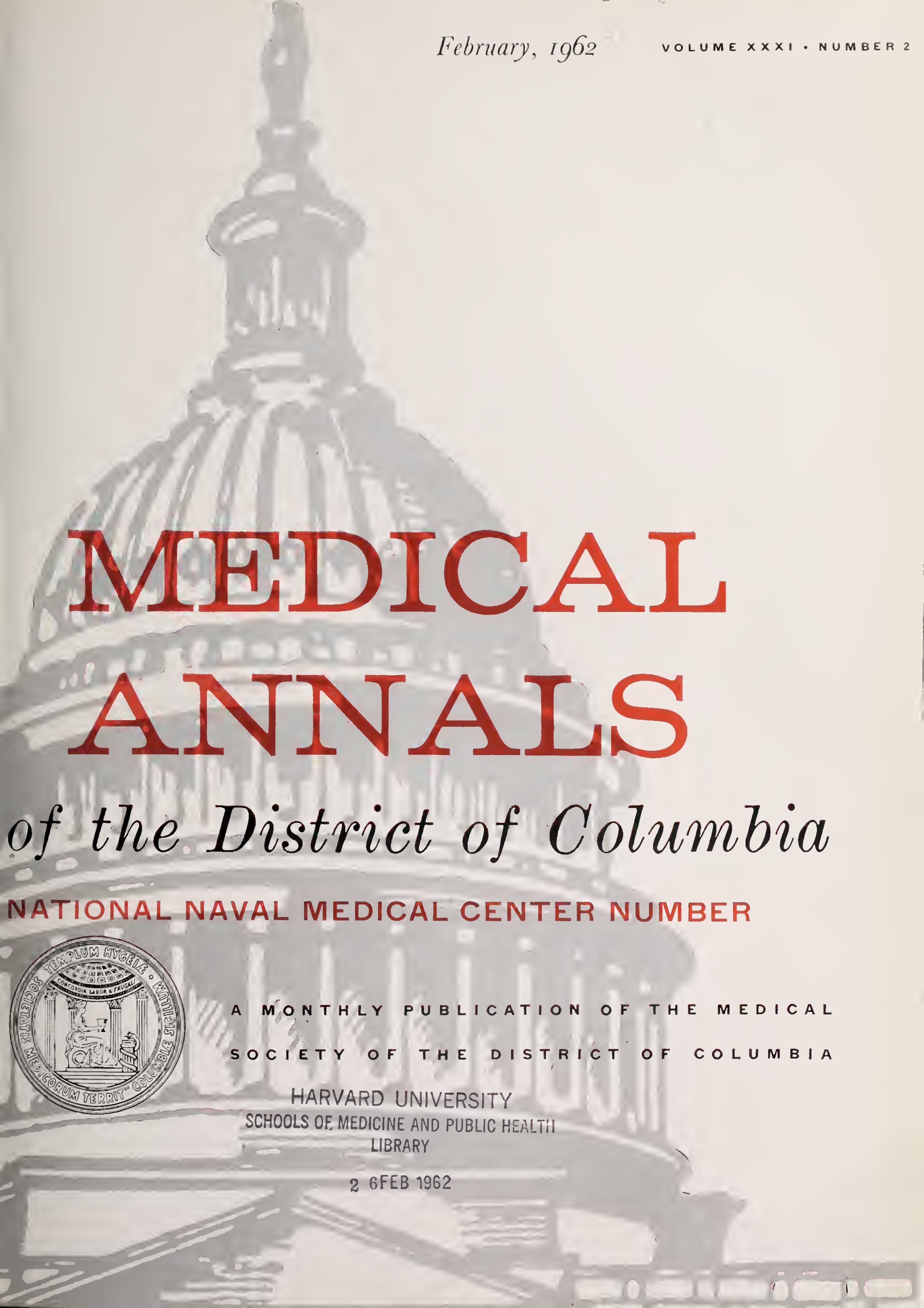

February, 1962 VOLUME XXXI • NUMBER 2

MEDICAL ANNALS of the District of Columbia

NATIONAL NAVAL MEDICAL CENTER NUMBER

A MONTHLY PUBLICATION OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

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References: (1) Malone, F. J., Jr.: *Mil. Med.* 125:836, 1960. (2) Martin, W. J.; Nichols, D. R., & Cook, E. N.: *Proc. Staff Meet. Mayo Clin.* 34:187, 1959. (3) Ullman, A.: *Delaware M. J.* 32:97, 1960. (4) Petersdorf, R. G.; Hook, E. W.; Curtin, J. A., & Grossberg, S. E.: *Bull. Johns Hopkins Hosp.* 108:48, 1961. (5) Jolliff, C. R.; Engelhard, W. E.; Ohlsen, J. R.; Heidrick, P. J., & Cain, J. A.: *Antibiotics & Chemother.* 10:694, 1960. (6) Lind, H. E.: *Am. J. Proctol.* 11:392, 1960.

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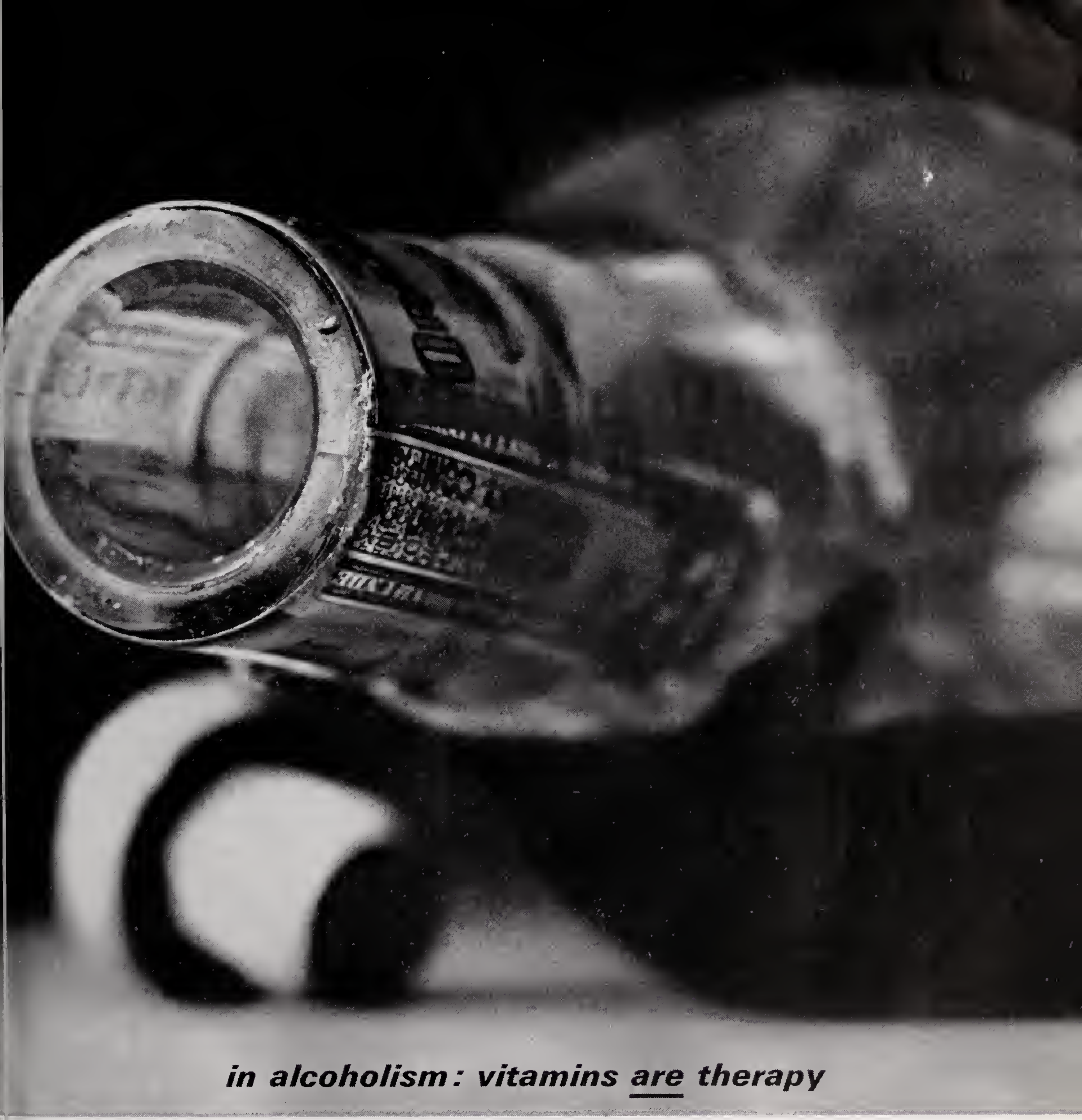

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Vitamin C (Ascorbic Acid)	300 mg.
Vitamin B_6 (Pyridoxine HCl)	2 mg.
Vitamin B_{12} Crystalline	4 mcgm.
Calcium Pantothenate	20 mg.

Recommended intake: Adults, 1 capsule daily, or as directed by physician, for the treatment of vitamin deficiencies.

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When it's more like "grippe" or "flu" than a simple cold, but an antibiotic is not indicated... prescribe NEW WIN-CODIN* Tablets

New Win-Codin tablets provide greater symptomatic relief from influenza, colds and sinusitis than do simple analgesic-antihistamine combinations. New Win-Codin tablets contain a full complement of the most effective agents available to relieve general discomfort, bring down fever and lessen congestive symptoms.

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Acetylsalicyclic acid 300 mg. (5 grains)—to reduce fever and relieve aching

Chlorpheniramine maleate 2 mg.—an antihistamine to shrink engorged membranes and lessen rhinorrhea

Ascorbic acid (vitamin C) 50 mg.—to increase resistance to infections†

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Average dose: Adults, 1 or 2 tablets three times daily; children 6 to 12 years, from ½ to 1 tablet three times daily.

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*Trademark †For persons with vitamin C deficiency
Neo-Synephrine (brand of phenylephrine), trademark reg. U. S. Pat. Off.

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Before prescribing be sure to consult Winthrop's literature for additional information about dosage, possible side effects and contraindications.

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Going home for the build-up

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It's good to be going home—in more ways than one. Now, he can take food again, and Surbex-T has replaced parenterals. Each Filmtab combines therapeutic amounts of the B-complex with 500 mg. of C—the most concentrated dosage of ascorbic acid available in a product of this type.

Your patients get the potency of an injectable. Yet, dosage is in an easy-to-take oral form.

Thanks to Filmtab coatings, tablets are up to 30% smaller and *much* easier to swallow. Unpleasant vitamin odors and aftertastes are sealed inside the Filmtab. And, as no water is used in the Filmtab process, potency is assured for a longer time.

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Each Filmtab® Surbex-T represents:

Thiamine Mononitrate (B_1)	15 mg.
Riboflavin (B_2)	10 mg.
Nicotinamide	100 mg.
Pyridoxine Hydrochloride	5 mg.
Cobalamin (Vitamin B_{12})	4 mcg.
Calcium Pantothenate (as calcium pantothenate racemic)	20 mg.
Ascorbic Acid (as sodium ascorbate)	500 mg.
Desiccated Liver, N. F.	75 mg.
Liver Fraction 2, N. F.	75 mg.

Supplied in bottles of 100, 500, and 1000

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FILMTAB **SURBEX-T** Therapeutic dosage of the B-complex *plus 500 mg. of vitamin C*

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Vitamin products generally taste fine going down, but regurgitative effects may often be downright unpleasant. While this seems like a minor problem, bad aftertaste can discourage patients from continuing needed medication ▪ Filmtab coatings guard against this possibility. Vitamin repeat is brought to a minimum. Unpleasant odors and aftertastes are effectively sealed inside the Filmtab. Tablets are also *much* easier to take as they can be up to 30% smaller in size. Bulky sugar coatings have been eliminated and breakage and cracking are less likely ▪ As for stability—it's enhanced! No water is used in Abbott's Filmtab coating process. Chances of moisture degradation are virtually eliminated ▪ When you recommend Abbott vitamins, Doctor, patients get the potency they pay for—today, tomorrow, a year from now.

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a pair of cardiac patients:

Patients portrayed by professional models.

both are free of pain—but only one is on

DILAUDID®
(Dihydromorphinone HCl)

swift, sure analgesia normally unmarred by nausea and vomiting

DILAUDID provides unexcelled analgesia in acute cardiovascular conditions. Onset of relief from pain is almost immediate. The high therapeutic ratio of DILAUDID is commonly reflected by lack of nausea and vomiting—and marked freedom from other side-effects such as dizziness and somnolence.

● **by mouth** ● **by needle** ● **by rectum**
2 mg., 3 mg., and 4 mg.

May be habit forming—usual precautions should be observed as with other opiate analgesics.

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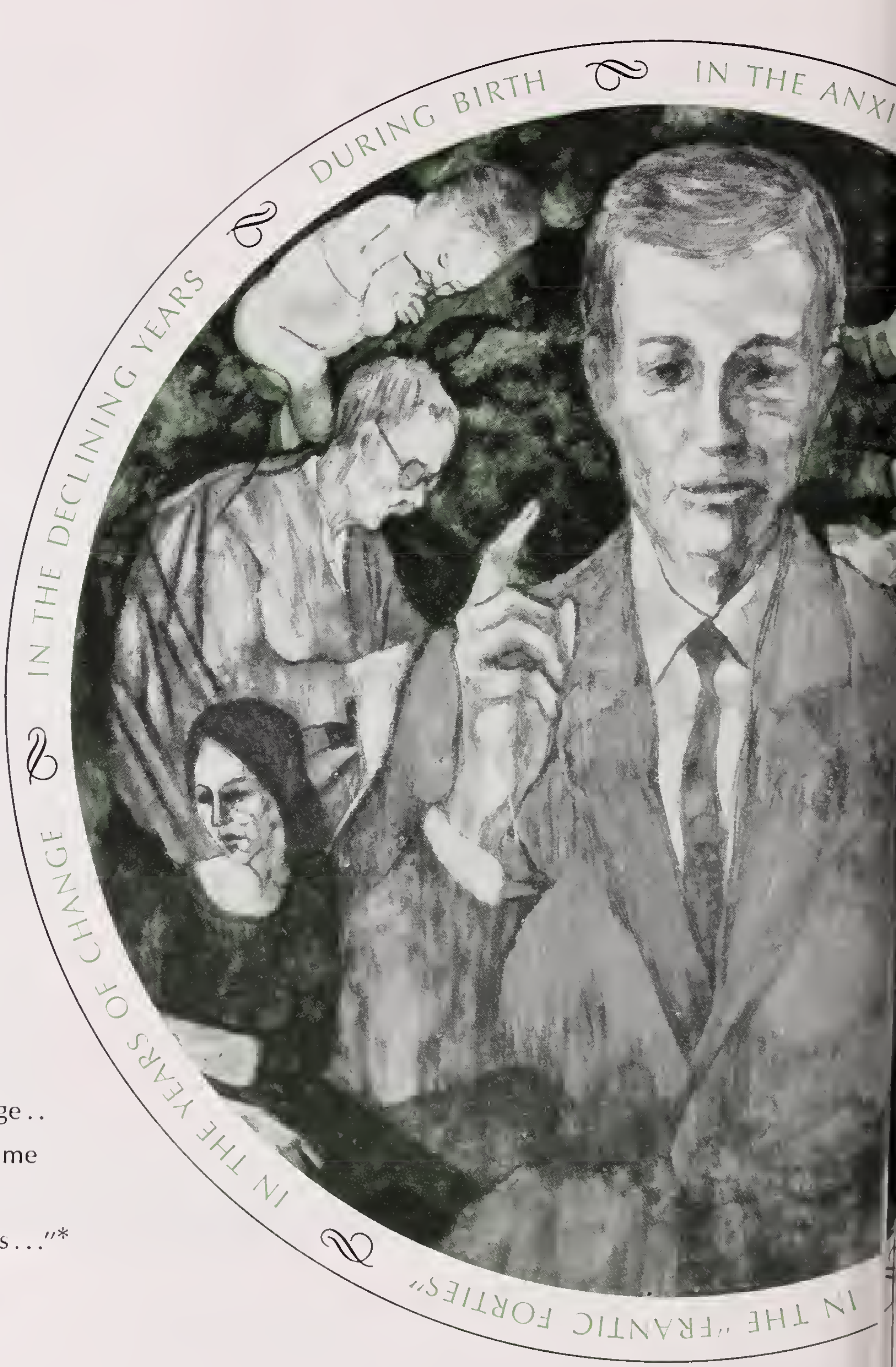
DURING BIRTH
IN THE ANXI
IN THE DECLINING YEARS
IN THE YEARS OF CHANGE
IN THE "FRANTIC FORTIES"

"All the world's a stage..
And one man in his time
plays many parts,
His acts being seven ages..."*

**As You Like It,* Act II, Sc. 7

IN THE EMOTIONAL TEENS
IN PREGNANCY AND AF

through all seven ages of man

VISTARIL®

effective anxiety control with a wide margin of safety

in the "frantic forties"—For many patients in their "frantic forties," the pace never slackens—may even accelerate—while tensions multiply and physical resources dwindle. Out of this seedbed of stresses and anxieties grow much of the alcoholism, psychosomatic illness, and sympathetic overactivity of the middle years.

In each of these areas, VISTARIL is often effective alone or as an adjunct to other therapy. For example, in his series of 67 patients, King[1] found that 62 showed remission of anxiety, tension, nervousness and insomnia, as well as alleviation of symptoms associated with various functional and psychophysiological disturbances. He concludes that VISTARIL is well suited for use in the practice of internal medicine.

In the emergent situation, VISTARIL, administered parenterally, is a valuable aid to the physician in managing patients who escape psychic conflict via alcohol. According to Weiner and Bockman,[2] who obtained beneficial results in 81% of 175 patients studied, hydroxyzine (VISTARIL) may well be considered a tranquilizer of choice in the management of the acutely agitated alcoholic.

1. King, J. C.: Int. Rec. Med. 172:669, 1959. 2. Weiner, L. J., and Bockman, A. A.: Sci. Exhibit, A.M.A., Ann. Meet., New York City, June 26-30, 1961.

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HYDROXYZINE PAMOATE

VISTARIL® PARENTERAL SOLUTION
HYDROXYZINE HYDROCHLORIDE

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Division, Chas. Pfizer & Co., Inc.
New York 17, New York

IN BRIEF VISTARIL®

VISTARIL, hydroxyzine pamoate (oral) and hydroxyzine hydrochloride (parenteral solution), is a calming agent unrelated chemically to phenothiazine, reserpine, and meprobamate.

VISTARIL acts rapidly in the symptomatic treatment of a variety of neuroses and other emotional disturbances manifested by anxiety, apprehension, or fear—whether occurring alone or complicating a physical illness. The versatility of VISTARIL in clinical indications is matched by wide patient range and a complete complement of dosage forms. The calmative effect of VISTARIL does not usually impair discrimination. No toxicity has been reported with the use of VISTARIL at the recommended dosage, and it has a remarkable record of freedom from adverse reactions.

INDICATIONS: VISTARIL is effective in premenstrual tension, the menopausal syndrome, tension headaches, alcoholic agitation, dentistry, and as an adjunct to psychotherapy. It is recommended for the management of anxiety associated with organic disturbances, such as digestive disorders, asthma, and dermatoses. Pediatric behavior problems and the emotional illnesses of senility are also effectively treated with VISTARIL.

ADMINISTRATION AND DOSAGE: Dosage varies with the state and response of each patient, rather than with weight, and should be individualized for optimum results. The usual adult oral dose ranges from 25 mg. t.i.d. to 100 mg. q.i.d. Usual children's oral dose: under 6 years, 50 mg. daily in divided doses; over 6 years, 50-100 mg. daily in divided doses.

Parenteral dosage for adult psychiatric and emotional emergencies, including acute alcoholism: I.M.—50-100 mg. Stat., and q.4-6h., p.r.n. I.V.—50 mg. Stat., maintain with 25-50 mg. I.V. q.4-6h., p.r.n.

SIDE EFFECTS: Drowsiness may occur in some patients; if so, it is usually transitory, disappearing within a few days of continued therapy or upon reduction of dosage. Dryness of mouth may be encountered at higher doses.

PRECAUTIONS: Drowsiness may occur in some patients. The potentiating action of hydroxyzine should be taken into account when the drug is used in conjunction with central nervous system depressants. Do not exceed 1 cc. per minute I.V. Do not give over 100 mg. per dose I.V. Parenteral therapy is usually for 24-48 hours, except when, in the judgment of the physician, longer-term therapy by this route is desirable.

SUPPLIED: VISTARIL *Parenteral Solution* (hydroxyzine hydrochloride)—10 cc. vials, 25 mg. per cc. and 50 mg. per cc.; 2 cc. ampules, 50 mg. per cc. VISTARIL *Capsules* (hydroxyzine pamoate)—25, 50, and 100 mg. VISTARIL *Oral Suspension* (hydroxyzine pamoate)—25 mg. per 5 cc. teaspoonful.

More detailed professional information available on request.

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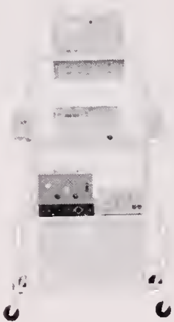

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mutually potentiating nonsteroid antirheumatics

"superior to aspirin"[2] and with a "higher 'therapeutic index'"[1]

When sodium should be avoided—

PABALATE®-SODIUM FREE

When conservative steroid therapy is indicated—

PABALATE®-HC

Pabalate with Hydrocortisone

1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.
2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

A. H. ROBINS COMPANY, INC., RICHMOND 20, VIRGINIA

In each yellow enteric-coat PABALATE *tablet:*

Sodium salicylate (5 gr.) 0.3 Gm.
Sodium para-aminobenzoate (5 gr.) 0.3 Gm.
Ascorbic acid . . . . . . 50.0 mg.

In each pink enteric-coated PABALATE-SODIUM FREE *tablet:*

Same formula as PABALATE, with sodium salts replaced by potassium salts.

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Same formula as PABALATE-SODIUM FREE, plus hydrocortisone (alcohol) . . . 2.5 mg.

Making today's medicines with integrity . . . seeking tomorrow's with persistence.

THIS END UP
WARNING

Can we measure the patient's comfort?

The physician can measure the basal metabolic rate by means of oxygen consumption. But he has no instrument—no objective test—for measuring comfort.

For this, he must depend upon his own powers of observation and the patient's own description of how he feels.

Because these are, admittedly, subjective criteria, the validity of results hinges entirely on the experience and objectivity of the investigators involved.

Such well-qualified clinicians have reported that a new corticosteroid developed in the research laboratories of Upjohn actually raises the level of relief obtainable with this type of therapy.

This difference cannot be "proved." It must be seen. And the only practical way for you to do this is to evaluate this new drug critically in your own practice. Please do, at your first opportunity. We are confident that you will be glad you did.

The new corticosteroid from Upjohn research

Alphadrol

Each tablet contains Alphadrol (fluprednisolone) 0.75 mg. or 1.5 mg.
Supplied in bottles of 25 and 100.

The anti-inflammatory activity of Alphadrol is comparable to the best effects obtained in current practice. Results obtained with Alphadrol have been such as to warrant classifying it among the most efficient steroids now available.

More than twice as potent as prednisolone, Alphadrol exhibits no new or bizarre side effects. Salt retention, edema or hypertension, potassium loss, anorexia, muscle weakness or muscle wasting, excessive appetite, abdominal cramping, or increased abdominal girth have not been a problem.

Indications and effects

The benefits of Alphadrol (anti-inflammatory, antiallergic, antirheumatic, antileukemic, antihemolytic) are indicated in acute rheumatic carditis, rheumatoid arthritis, asthma, hay fever and allergic disorders, dermatoses, blood dyscrasias, and ocular inflammatory disease involving the posterior segment.

Precautions and contraindications

Patients on Alphadrol will usually experience dramatic relief without developing such possible steroid side effects as gastrointestinal intolerance, weight gain or weight loss, edema, hypertension, acne or emotional imbalance.

As in all corticotherapy, however, there are certain precautions to be observed. The presence of diabetes, osteoporosis, chronic psychotic reactions, predisposition to thrombophlebitis, hypertension, congestive heart failure, renal insufficiency, or active tuberculosis necessitates careful control in the use of steroids. Like all corticosteroids, Alphadrol is contraindicated in patients with arrested tuberculosis, peptic ulcer, acute psychoses, Cushing's syndrome, herpes simplex keratitis, vaccinia, or varicella.

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February, 1962

The Upjohn Company
Kalamazoo, Michigan

Upjohn

Put your low-back patient back on the payroll

Soma relieves stiffness –stops pain, too

YOUR CONCERN: Rapid relief from pain for your patient. Get him back to his normal activity, fast!

HOW SOMA HELPS: Soma provides direct pain relief while it relaxes muscle spasm.

YOUR RESULTS: With pain relieved, stiffness gone, your patient is soon restored to full activity—often in days instead of weeks.

Kestler reports in controlled study: *Average time for restoring patients to full activity: with Soma, 11.5 days; without Soma, 41 days.* (*J.A.M.A. Vol. 172, No. 18, April 30, 1960.*)

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only in higher dosages. Soma is available in 350 mg. tablets. USUAL DOSAGE: 1 TABLET Q.I.D.

The muscle relaxant with an *independent* *pain-relieving acti*

SOMA

(carisoprodol, Walla

® Wallace Laboratories, Cranbury, New Jers

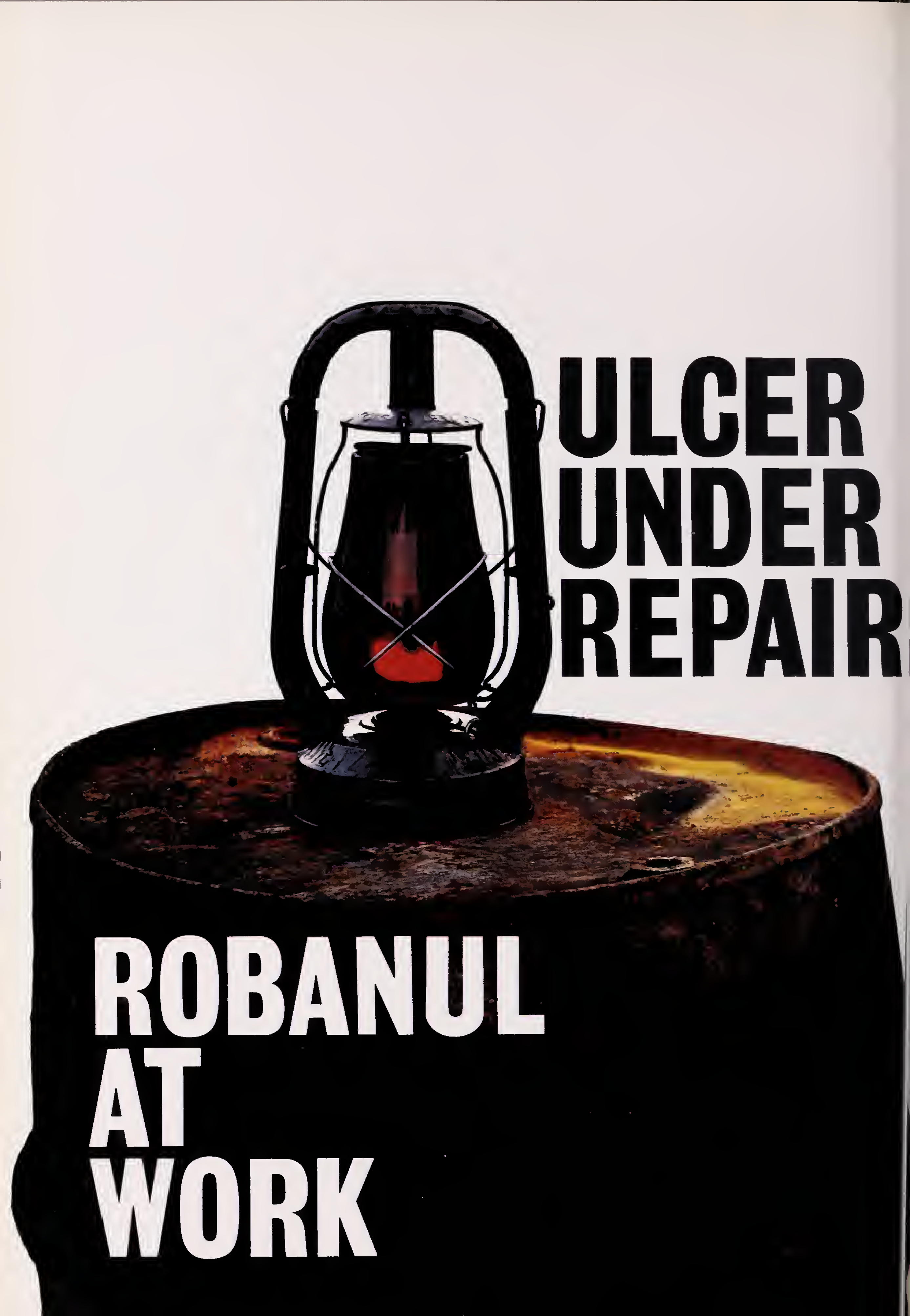
OPEN SEASON ON CLOGGED NOSES

in sinusitis, colds, U.R.I.,
10-12 hours
clear breathing on 1 tablet

DIMETAPP® Extentabs®

It's always Open Season on stopped-up noses when you prescribe Dimetapp Extentabs. One tablet provides prompt and prolonged relief from the stuffiness, drip, and congestion of upper respiratory infections. Dimetapp Extentabs contain a proven antihistamine, Dimetane® [parabromdylamine (brompheniramine) maleate]—12 mg., and two outstanding decongestants, phenylephrine HCl—15 mg., and phenylpropanolamine HCl—15 mg.... all in dependable, long-acting (10-12 hours) Extentab form.

A. H. Robins Company, Inc.
Richmond, Va.


ULCER
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REPAIR
ROBANUL
AT
WORK

New
Robanul™ signals a major improvement in duodenal ulcer therapy

From Robins research comes Robanul (generically, Glycopyrrolate), first of the "rigid-ring" anticholinergics, representing what may well be the most important advance in anticholinergic chemistry in a decade.

Clinically, both Robanul and Robanul-PH (with phenobarbital) have demonstrated a remarkable ability to provide within 90 minutes—and maintain for 6 to 10 hours—those nearly ideal pharmacologic healing conditions that mean prompt relief of ulcer pain and a successful recovery of your ulcer patient.

There are always important questions about any new therapeutic agent. Below are answers to some of the common ones asked about Robanul:

ROBANUL™

Glycopyrrolate (Robins),
1.0 mg. per tablet
(U.S. Pat. No. 2,956,062)

ROBANUL™-PH

Robanul with phenobarbital,
16.2 mg. per tablet

First of all, what does "rigid-ring" mean?

Briefly, this: it describes the use of a fixed pyrrolidine pentagon, or rigid ring, which guarantees a constant 2-carbon distance between reactive parts of the molecule. In line with the "receptor site" concept of the mechanism of action of anticholinergics, this almost inflexible molecule is theoretically more likely to "fit" only certain receptor sites.

Theories are all right, but is Robanul really more selective?

Yes! Evidence of its selectivity can be seen by the surprising lack of typical secondary anticholinergic effects (dry mouth, blurred vision, etc.) that occur at the effective dosage level of 1 to 4 mg. a day. Out of 499 duodenal and gastric ulcer patients treated at this level in investigative studies, only 4.4% had complaints of moderate to severe effects.

How is it for reducing gastric acid?

One investigator[1a] found that a 2 mg. dose of Robanul lowered acid secretion 73% in one hour (compared to a basal-hour period) and 84% in two. A 4 mg. dose dropped secretion over 94% in one hour and 97% in two!

What about acidity, or concentration of acid?

In one study, glycopyrrolate produced significant suppression of pH to 4.5 or higher in 5 of 5 duodenal ulcer patients given a 4 mg. dose, 7 of 8 patients given 2 mg., and 4 of 5 patients given 1 mg.[1b]

Will Robanul depress gastric hypermotility?

In another study[2] with six subjects Robanul decreased gastric motility in every patient. Within 40 minutes after the administration of 2 mg. of Robanul, the frequency of gastric antral contractions decreased from 1 every 24 seconds to only 1 every 2½ minutes. Young and Sun[1c] found a similar effect. Moreover, their results in 7 patients indicated that Robanul, in a dose of 2 mg., did not produce delay in gastric emptying or intestinal transit.

What's the best dosage schedule for Robanul?

It should be adjusted for each patient, and this is where Robanul offers another big advantage. Its "titratability" is unmatched among anticholinergic agents. Robanul's potency makes possible a recommended starting dose of only one milligram t.i.d. Yet its selectivity usually permits much leeway for dosage adjustment upward as necessary, to achieve the most effective dose level for each patient while maintaining a low incidence of undesirable effects on other organ systems.

Is there anything else Robanul does for peptic ulcer?

Much more! For instance, 2 mg. cuts pepsin production about 50% in two hours; 4 mg., about 65%.[1a]...There is evidence that Robanul combats hormonal aspects of gastric secretions as well as vagal in many patients... ...Its activity lasts long enough to reduce acid secretion all night long.[3]...Many ulcer patients have remarked about its fast relief of pain....

One last question: Why not prescribe Robanul for your next duodenal ulcer patient and see for yourself just exactly how effective it is?

References: 1. From the New York Academy of Sciences, Conference on Peptic Ulcer, Oct., 1961. (a) H. C. Moeller. (b) D. C. H. Sun. (c) R. Young and D. C. H. Sun. 2. W. C. Breidenbach: Investigative clinical report, March, 1961. 3. I. A. Feder: Investigative clinical report, May, 1961.

Additional information upon request.

A. H. Robins Company, Inc., Richmond 20, Va.

blood pressure approaches normal more readily, more safely....simply with

Salutensin®

(hydroflumethiazide, reserpine, protoveratrine A—antihypertensive formulation)

Early, efficient reduction of blood pressure. Only Salutensin combines the advantages of protoveratrine A ("the most physiologic, hemodynamic reversal of hypertension"[1]) with the basic benefits of thiazide-rauwolfia therapy. The potentiating/additive effects of these agents[2-8] provide increased antihypertensive control at dosage levels which reduce the incidence and severity of unwanted effects.

Salutensin combines Saluron® (hydroflumethiazide), a more effective 'dry weight' diuretic which produces up to 60% greater excretion of sodium than does chlorothiazide[9]; reserpine, to block excessive pressor responses and relieve anxiety; and protoveratrine A, which relieves arteriolar constriction and reduces peripheral resistance through its action on the blood pressure reflex receptors in the carotid sinus.

Added advantages for long-term or difficult patients. Salutensin will reduce blood pressure (both systolic and diastolic) to normal or near-normal levels, and maintain it there, in the great majority of cases. Patients on thiazide/rauwolfia therapy often experience further improvement when transferred to Salutensin. Further, therapy with Salutensin is both economical and convenient.

Each Salutensin tablet contains: 50 mg. Saluron® (hydroflumethiazide), 0.125 mg. reserpine, and 0.2 mg. protoveratrine A. See Official Package Circular for complete information on dosage, side effects and precautions.

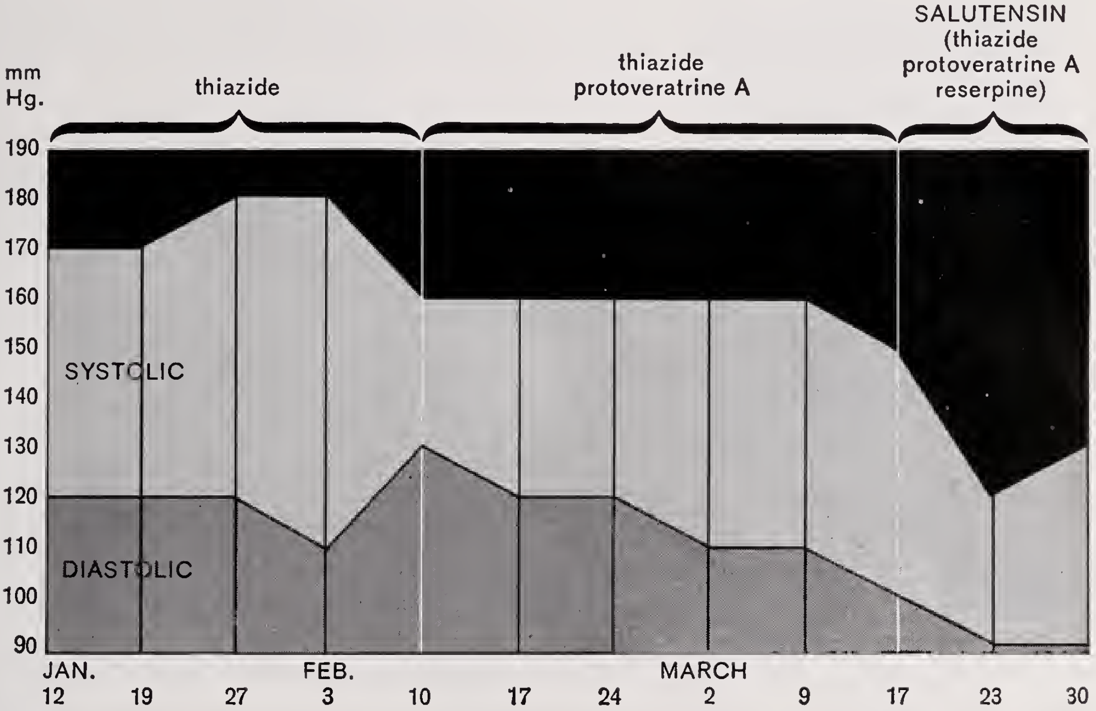
Supplied: Bottles of 60 scored tablets.

References: 1. Fries, E. D.: In Hypertension, ed. by J. H. Moyer, Saunders, Phila., 1959 p. 123. 2. Fries, E. D.: South M. J. **51**:1281 (Oct.) 1958. 3. Finnerty, F. A. and Buchholz, J. H.: GP **17**:95 (Feb.) 1958. 4. Gill, R. J., et al.: Am. Pract. & Digest Treat. **11**:1007 (Dec.) 1960. 5. Brest, A. N. and Moyer, J. H.: J. South Carolina M. A. **56**:171 (May) 1960. 6. Wilkins R. W.: Postgrad. Med. **26**:59 (July) 1959. 7. Gifford, R. W., Jr.: Read at the Hahnemann Symp. on Hypertension, Phila. Dec. 8 to 13, 1958. 8. Fries, E. D., et al.: J. A. M. A. **166**:137 (Jan. 11) 1958. 9. Ford, R. V. and Nickell, J.: Ant. Med. & Clin. Ther. **6**:461, 1959.

all the antihypertensive benefits of thiazide-rauwolfia therapy plus the specific, physiologic vasodilation of protoveratrine A

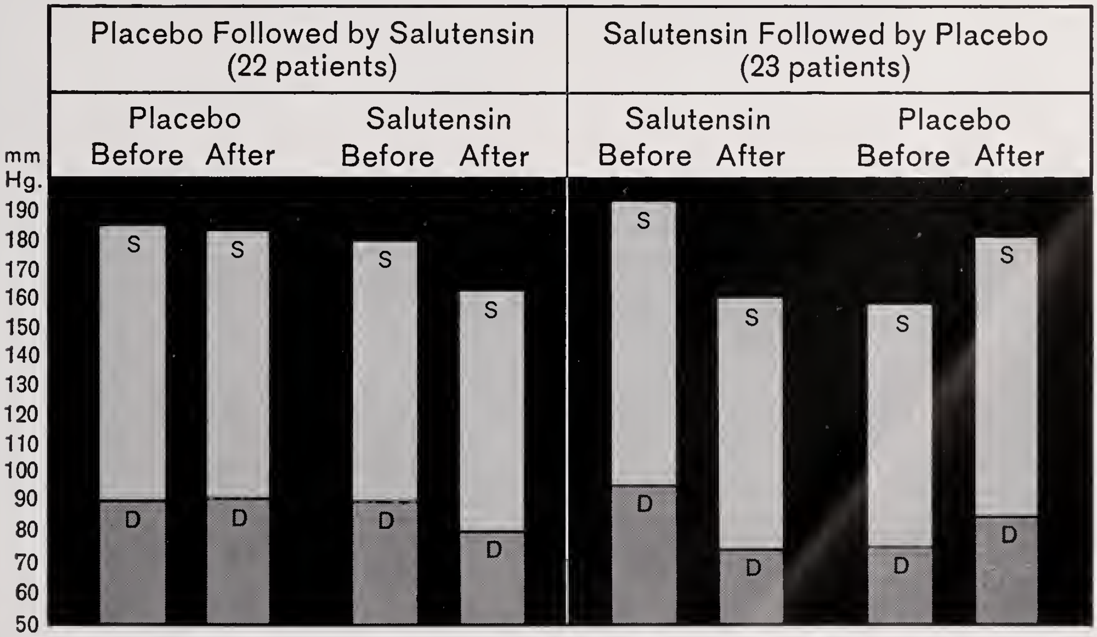
11 WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS BY SERIAL ADDITION OF THE INGREDIENTS IN SALUTENSIN IN A TEST CASE

(Adapted from Spiotta, E. J.: Report to Department of Clinical Investigation, Bristol Laboratories)



3½ WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS USING SALUTENSIN FROM THE START OF THERAPY IN A "DOUBLE BLIND" CROSSOVER STUDY

Mean Blood Pressures—Systolic (S) and Diastolic (D)



In this "double blind" crossover study of 45 patients, the mean systolic and diastolic blood pressures were essentially unchanged or rose during placebo administration, and decreased markedly during the 25 days of Salutensin therapy. (Smith, C. W.: Report to Department of Clinical Investigation, Bristol Laboratories.)

BRISTOL LABORATORIES/Div. of Bristol-Myers Co., Syracuse, N.Y.

BOOK REVIEWS

Introduction to Anesthesia. The Principles of Safe Practice, 2nd ed. Robert D. Dripps, M.D., James E. Eckenhoff, M.D., and Leroy D. Vandam, M.D. Price, $8.00. Pp. 413. Philadelphia: Saunders, 1961.

Lucid and compact are the adjectives one can use most accurately to describe the second edition of this popular, fundamental volume on the specialty of anesthesiology.

A number of new subjects have been added, with chapters on, among other things, hypothermia, hypnosis, induced hypotension, asepsis in anesthesia, mechanical ventilation, and medicine and the law. This increase in scope will add to its appeal. The expansion has been done in such a complete but economical way that there are less than 400 pages in this small volume. However, nothing seems to have been omitted.

The authors have divided the work into seven sections and further subdivided into appropriate chapters, presenting the material in logical sequence. Thus, the reader is conducted in an orderly fashion from the preoperative visit, through the day of operation, and into the postoperative period. Illustrations, charts and graphs of excellent quality appear liberally throughout. The index is quite satisfactory.

This book should appeal to anyone interested in anesthesia. It is clearly written for the beginner; complete enough for the trained specialist. It is the best by far of the various introductory volumes available in this particular field of medicine.

Ramsey MacCordy, M.D.

The Cervix Uteri and Its Diseases. C. Frederic Fluhmann, M.D. Price, $14.00. Pp. 556, with 482 illustrations. Philadelphia.: Saunders, 1961.

This textbook was motivated by the fact that a considerable part of the practice of gynecology is based on diseases of the cervix uteri. Because of this and also because of a high degree of interest in some relatively new pathologic entities in the cervix, i.e., carcinoma in situ and the incompetent cervix, the author felt that a single volume devoted to the cervix uteri and its diseases was needed.

Dr. Fluhmann has succeeded in compiling an orderly and exhaustive description of the cervix and its disorders. Discussions of the developmental and gross anatomy, the histology and physiology of the cervix cover the first 107 pages of the text. The pictures and illustrations are good in number and kind. In regards the cervix, these certainly rival and perhaps even surpass those found in texts devoted solely to gynecologic pathology. There are several features which should be of particular interest to most American gynecologists as they cover subjects which in the past have been badly neglected in our textbooks. There is a lucid and reasonably detailed discussion of culposcopy which includes the author's philosophy on its value in gynecologic diagnosis.

As one might guess, two-fifths of the volume is devoted to a description of the pathology, diagnosis and treatment of carcinoma of the cervix. Included here is excellent coverage of all aspects of radiotherapy of invasive carcinoma from a gynecologic point of view. This section is of particular merit because it goes into considerable detail on general considerations of this kind of treatment, i.e., units of measurement, factor of distance, quality of radiation and volume factor, etc. It is particularly comforting to see two local men (Merritt and Caulk) credited with being among the pioneers in the use of transvaginal irradiation for adenocarcinoma of the cervix.

Another highlight of the book is the excellent section on the syndrome of the incompetent cervix. The different criteria for diagnosis, both clinical and X-ray, and the different modes of therapy are well described.

What is bad about the book? For the private practitioner and even for the student of gynecology the tremendous detail and theoretical considerations entered upon in the basic science aspects of the cervix will prove too burdensome at times. A minor point is that there was no mention of fluorescent cytology, which locally has gained some enthusiastic support under the leadership of Riva et al.

This book is an excellent text and will be of real value to all who practice gynecology. Whether or not it will be of similar value to pathologists and radiologists, which well it might be, remains for those men to decide.

William F. Colliton, Jr., M.D.

Rehabilitation of a Child's Eyes, 3rd ed. Herbert M. Katzin, M.D., F.A.C.S., and Geraldine Wilson, R.N. Price, $3.75. Pp. 107, illustrated. St. Louis: Mosby, 1961.

This is still one of the best books for lay people I have ever read. The hope stated in the Foreword of answering a parent's questions should be fulfilled, as I could think of no common question encountered in the office that was not adequately covered. Obviously, no parent would ask all the questions, but the 103 pages limit the chaff.

Thankfully, a new edition is justified, as ophthalmologists' knowledge is increasing and parents' questions indicate that general knowledge of proper eye care is progressing. Certainly anyone interested enough to read the book is apt to note the copyright date.

John R. Weimer, M.D.

(*Continued on page 28*)

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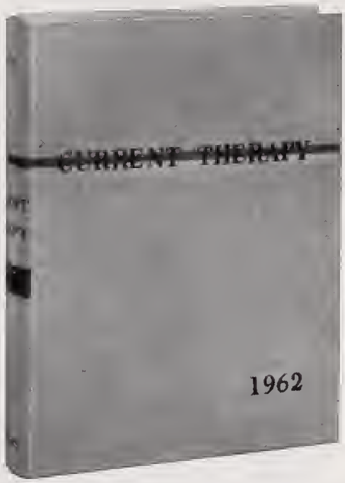

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Book Reviews

(*Continued from page 26*)

A Manual of Cutaneous Medicine. Donald M. Pillsbury, M.A., D.Sc (Hon.), M.D., F.A.C.P.; Walter B. Shelley, M.D., Ph.D., F.A.C.P., and Albert M. Kligman, M.D., Ph.D. Price, $9.50. Pp. 430, illustrated. Philadelphia: Saunders, 1961.

This book is written in the usual style of the authors, which makes it extremely easy to understand. The descriptions of the conditions and the illustrations are excellent.

As the authors point out, it is not an abstract of their original text; however, it is a quick desk reference work for anyone with the slightest interest in dermatology. It fills a place which has been too long vacant.

It is, of course, ideal not only for students but for general practitioners or anyone else who has to see various skin conditions. Its format enables one to get to and classify skin problems with more ease.

E. E. Barksdale, M.D.

Transactions of the American Society for Artificial Internal Organs. Volume VII. Atlantic City, New Jersey, April 9–10, 1961. Editor: George E. Schreiner, M.D.; Associate Editors: John F. Maher, M.D., and Modestino Criscitiello; and Assistant Editor: Joan P. Ryan. Price (paper), $8.00. Pp. 391. Copies may be ordered from Dr. George E. Schreiner, Department of Medicine, Georgetown University Hospital, Washington 7, D.C.

This volume summarizes the transactions (papers and tape-recorded free discussion) of the Seventh Meeting of the American Society for Artificial Internal Organs held in Atlantic City, N.J., April 9–10, 1961. As in the past, most papers concern most recent information on design and application of dialyzer-ultrafilters and pump-oxygenator mechanisms. Of special interest is the detail of the first year's experiences in several clinics with the chronic cannulation of peripheral arteries and veins, connected as an A-V shunt between dialyses in patients receiving multiple hemodialysis treatments for acute and chronic renal failure. One set of Teflon cannulae connected as an A-V shunt remained functional as long as eight months, but many dialyses were permitted even during the shorter functional duration of cannulae in other patients. Continued success was demonstrated in preventing uremia by means of continuous hemodialysis during the entire oliguric period in patients with acute renal failure and by intermittent dialyses at approximately weekly intervals in patients with chronic renal failure.

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Several contributions demonstrated the high state of safety and efficiency achieved by newer pump oxygenators, including the use of their heat-exchange capabilities to induce hypothermia, and to assist the circulation in circulatory failure by means of diastolic vein-to-artery injection timed to the cardiac cycle. Data were advanced on electrical pacemakers for the correction of complete heart block, and on methods of inducing cardiac arrest by local hypothermia, potassium and anoxia. Effects of these devices on extracellular pH, organ blood flow, organ metabolism, capillary circulation, and on the blood itself were shown.

Experience with vascular and valvular prostheses was included, followed by a group of papers on the intrathoracic artificial heart. The past year's work, involving transfer of power to the mechanism in the chest, heat production and other problems of the intrathoracic mechanism, was summarized by several laboratories. Devices employing various power sources have maintained life in dogs to at least 24 hours, including ambulation (after recovery from anesthesia) for shorter periods.

The view is often implied that effective biomedical instrumentation may be ultimately preferable to satisfactory organ homotransplantation, so that further research efforts should be prosecuted vigorously. As in prior years, the value of this publication is greatly enhanced by the tape-recorded, spontaneous comments and question-answer interchange between speakers and members of the audience.

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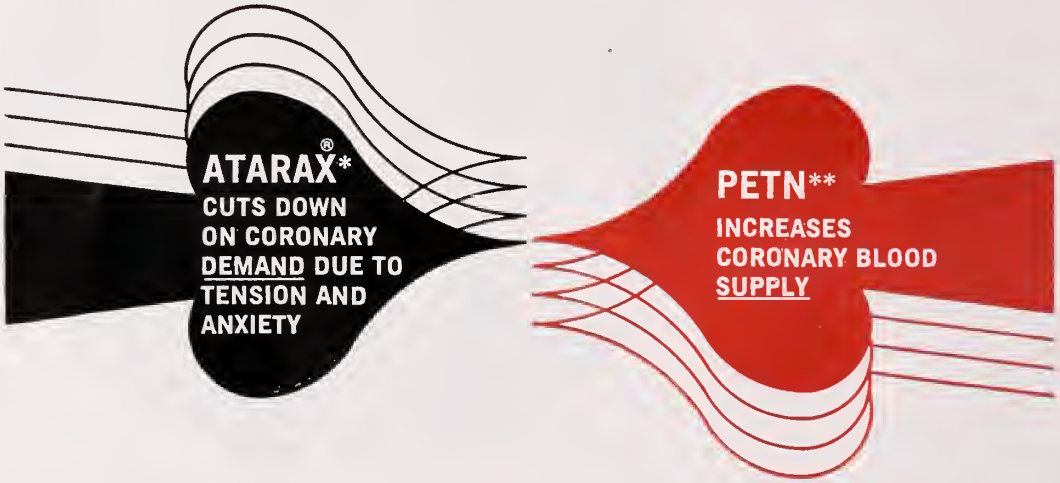
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1. Clark, T. E., and Jochem, G. G.: Angiology 11:361 (Aug.) 1960.

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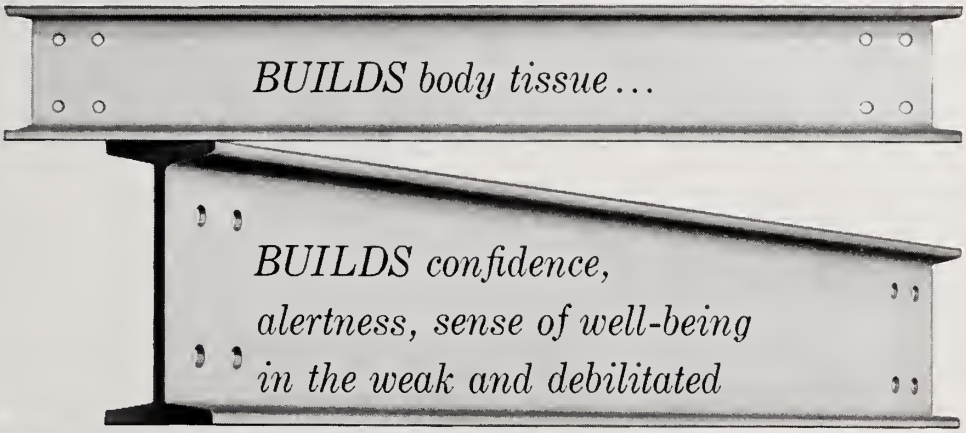
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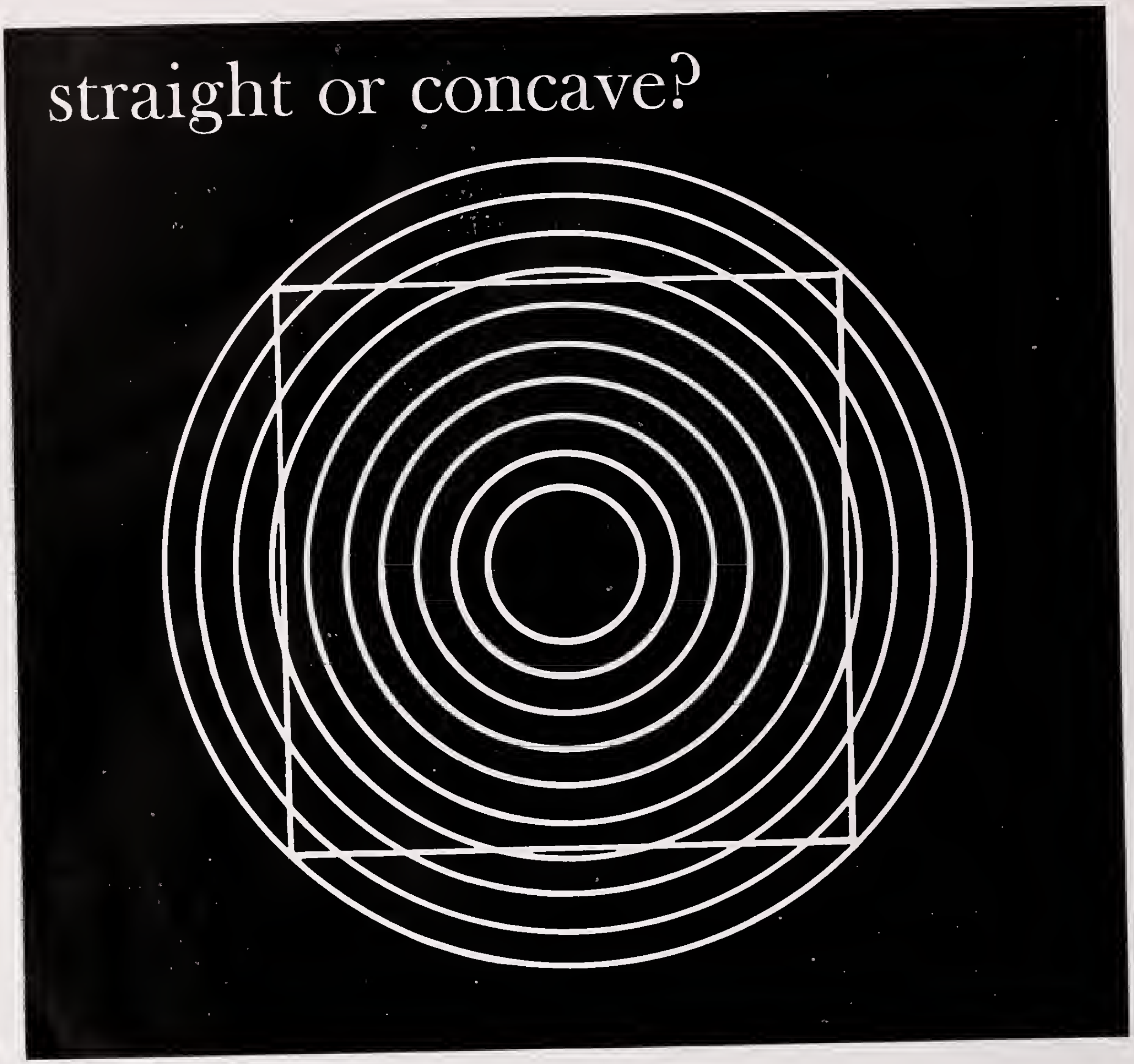
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1. Griffith, R. S.: Antibiotic Med. & Clin. Therapy, 7:129, 1960.

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February 1962 VOLUME XXXI • NUMBER 2

NATIONAL NAVAL MEDICAL CENTER NUMBER

THIS IS THE FOURTH of a second series of special numbers of the MEDICAL ANNALS, the scientific material for which is supplied by medical institutions and scientific organizations in the Washington Metropolitan Area. For the NATIONAL NAVAL MEDICAL CENTER NUMBER, the Editorial Board is indebted to Captain Thomas E. Cone, Jr., MC, USN, Consulting Editor of the MEDICAL ANNALS, who secured the papers which appear in this issue.

Radiation and Pregnancy

COMMANDER THOMAS B. LEBHERZ, MC, USN
Chief, Division of Obstetrics and Gynecology, United States Naval Hospital, National Naval Medical Center, Bethesda, Maryland

FRIEDRICH ELLINGER, M.D.
Chief Radiation Biologist and Head of the Pharmacology Division, Naval Medical Research Institute; Member, Radioisotope Board and Consultant to the Tumor Board, United States Naval Hospital

THE EFFECTS OF IONIZING RADIATION on organs of reproduction are of paramount importance in medicine and public health.[1] Regardless of the source, whether a nuclear explosion, background, X-ray exposure during diagnostic studies, or scatter from poorly insulated machines, a measurable amount of maternal gonadal or total fetal radiation always occurs. The effect of radiant energy on cell life is always discernible[2]; that is, no matter how minute, what the source, or which cell is affected, the ultimate result can never be tissue creation, only tissue modification or destruction.

Natural radiation issues fundamentally from two main sources, cosmic from the atmosphere and background from radioactive sources in the earth. The total cumulative dose from these sources is estimated to be 150 milliroentgens per year to the human gonads or 4 r by the end of the third decade of life. These sources probably have been present since the beginning of man.

Artificial irradiation, on the other hand, is in its early infancy when one considers it in relation to creation. Common sources of this type of ionizing radiation are found in daily environmental contamination. This type occurs in industry and in fallout from nuclear and thermonuclear explosions. It is an occupational hazard among physicians, nurses and technicians involved in diagnostic and therapeutic procedures with cathode-ray tubes and radioisotope sources. Finally, it results from devices available to the general public such as in luminous watch dials and fluoroscopic shoe-fitting machines. By far the most significant source is from the diagnostic use of roentgen apparatus and radioisotopes. It is estimated that as of today our population receives an average yearly exposure 10 to 100 times that of background, the variable being dependent upon geographic location and availability of medical care.[3]

Since we think we must accept the original premise that radiation, regardless of kind or source, never creates but only modifies, suppresses, or destroys, and since from volumes of material it appears that diagnostic X-ray examinations are the most significant source of artificial irradiation, one must next consider what are the potential hazards of exposure to the pregnant patient. We consider this facet in three parts—somatic to the individual, somatic to the individual to be, and genetic to the human race.

The first category is not truly germaine to the discussion today, except that all radiation is cumulative and that ultimately a significant dose can finally result with promiscuous exposure. The suggested relationship of thyroid neoplasms to head and neck therapy in childhood is an example of this.

Of special interest is the second category, that is, somatic to the individual to be. Ionizing radiation affects the pregnancy from this standpoint by direct action on the products of conception. These immediate effects in humans were reported by Bar and Boule[4] in 1901. This fetal somatic effect has since that time been thoroughly investigated in both animals and man. Experimental studies by Job and his associates[5] in 1935 first demonstrated the existence of critical periods for the development of radiation injuries in rat embryos. These studies have been extended and enlarged by subsequent investigators[6, 7] so that exact time tables for the development of various malformations have become available. Although these data are not directly applicable as regards total dosage to man, they do bring to the fore the question of the possible hazard to the human embryo during roentgen diagnostic procedures. Human studies are difficult to get, but case reports of accidental, inadvertent or therapeutically indicated exposures suggest the fetal somatic effect to be a potential reality and that the degree and type of malformation bear a direct relationship to total dose and week of gestation. Before nidation (7 to 10 days of gestation) the effect is all or none; that is, if successful implantation follows irradiation, abnormalities secondary to irradiation do not seem to occur. However, if irradiation exposure occurs from the second to the seventh week of gestation, the chances are great that malformation will result, more commonly those of central nervous system involvement. Evidence from Hiroshima suggests that this somatic effect may be produced as far as the eighteenth week of intrauterine life; but in the light of present-day experience the likelihood of causing a malformation by radiation of the developing fetus at any time is probably minimal if the dose is 20 r or less and a given time span is not exceeded. Also, there is no experimental or clinical evidence that dosages of the order involved in routine diagnostic examinations will produce neonatal malformations. This does not hold true for some of the more specialized fluoroscopic procedures. The other fetal somatic effect, that is, postnatal tendency to develop a malignant tumor, alluded to by Stewart et al,[8] needs much more evidence for us to accept. As a matter of fact, Court Brown et al[9] more recently have completed a more controlled study and concluded that such a possibility does not appear statistically sound.

The final category and the one which appears to have the soundest basis is the genetic effect. The mutogenic action of radiant energy was first reported by Muller[10] in 1927. His work has since been confirmed by other investigators.[11, 12, 13] Mutations arising after irradiation are of the same type as the spontaneously occurring mutations but are more numerous; hence we can say irradiation does increase mutation rate. It is fortuitous that recessive mutations are more common than dominant ones and lethal more common than nonlethal. The recessive mutations will cause no problem unless the same recessive factor is present in both the parents. The lethal mutations are self-destroying and therefore cannot be propagated. These factors tend to make (less significant) the mutation rate increase, but they do not alter the fact that the increased rate is a reality. Furthermore, Muller has noted that it probably takes 25 r to double the mutation rate. From a clinical point of view the important material reported by some authors[14, 15] is the fact that the radiation-induced mutation rate is independent of intensity and time, and the mutagenic effect of radiation shows complete cumulation over a life span.

Although much data have accumulated regarding genetic changes in experimental work, it must be realized that it is most difficult to extrapolate these results to man. For instance, the inbreeding necessary for such investigations precludes simple application to man.

Data are available in regard to genetic changes in man, but such data are modified by the length of time necessary to accomplish a generation, and therefore such studies so far evaluate only to the second generation and with a very small number of patients. Such studies,[16, 17] although they do not suggest any genetic changes, at the same time in no way dispose of the presence of genetic injury. On the other hand, a survey comparing 5,461 offspring of radiologists to 4,484 unexposed parents suggests a higher incidence of congenital defects in the progeny of the exposed group.[18] The differences in this study are not large and should not be viewed with alarm, but they do suggest that further investigations along those lines are urgently needed. The Hiroshima-Nagasaki report on 76,626 offspring of parents who had gonadal irradiation stated that "on the basis of what is known concerning radiation genetics in mammals, genetic effects of the atomic bombs have in fact not been demonstrated."[19]

In essence, it appears that deleterious genetic changes to the future human race appear on the surface to be real, and until sound human studies are available our approach should be one of caution rather than fear or agnosticism.

To what degree are the maternal and fetal gonads affected by irradiation in routine diagnostic procedures? The figures reported[20–23] vary considerably when different techniques are used to determine dose.

	Maternal Gonad	Fetal Gonad	Total Fetal
Pelvimetry without Thoms	1–2 r	3 r	1–3 r
Pelvimetry with Thoms	4–5 r	5 r	4–5 r
Intravenous pyelogram	1–2 r	1 r	1–2 r
Lumbar spine	1–3 r	2 r	3 r
Barium enema with fluoroscopy	3 r	3 r	3 r
Gastrointestinal with fluoroscopy	1–3 r	3 r	3 r
Chest with cone shield	0.07 mr	0.07 mr	0.07 mr
Chest without cone shield	0.4 mr	0.4 mr	0.4 mr
Hysterogram with fluoroscopy	4–10 r	—	—

Although these doses alone appear to involve but little or no risk to the embryo, they do appear significant from the point of view of the induction of genetic effects, especially since the hazard lies in the repetition of exposures. As an example of a possible case report it is not inconceivable that the following procedures could be carried out in a 20-year life span.

1. G.I. series for nausea and vomiting, 6 to 8 weeks' gestation 1.5 r
2. Routine X-ray photofluorogram at 12 weeks 0.4 r
3. I.V.P. at 30 weeks (pyelonephritis) 2 r
4. Pelvimetry with Thoms' position, repeated because of technical error at 38 weeks 8 r
5. Four chest roentgenograms on the third to seventh days of life for respiratory problem in the new baby girl 0.56 mr
6. Routine chest roentgenogram at 20 years 2.8 mr

7. Barium enema for suspected intussusception	3 r
8. Chest fluoroscopy for heart murmur at age 7	3 r
9. Lumbosacral series after fall in sports at age 14	4 r
10. Barium enema for episode of rectal bleeding at age 19	3 r
11. Hysterosalpingogram with fluoroscopy at age 21 as infertility study	5 r
Ovum now fertilized has received	29.9 r

On the surface this appears absurd, but such a history is not unheard of and this is the type of situation we must prevent.

That this dosage can be decreased by modifying techniques has been well shown, and those modifications can be easily integrated into any system[24, 25]:

a. Cone down to desired field.

b. Utilize higher kv. and lower amperage.

c. Use faster film necessitating less exposure.

d. Check equipment frequently for scatter.

e. Improve apparatus installation with regard to scatter.

f. Use fluoroscopy only with an intensifier.

Positive steps to be taken by physicians managing female patients are:

a. Stop all routine roentgen diagnostic studies in pregnant women.

b. Add a fill-in space for last menstrual period on X-ray request chits.

c. Do only emergent diagnostic procedures after the fourteenth day of menstrual cycle.

d. Consider X-ray pelvimetry as an intrapartum procedure.

e. Utilize the last menstrual period of nurses and personnel in radium and radioisotope studies.

f. Do more investigation of radioisotope procedures as substitutes for cathode-tube studies.

g. Consider sponsoring a follow-up registry for patients who receive irradiation early in pregnancy.

SUMMARY

Three factors must be ever present in the physician's mind when he is considering diagnostic roentgen procedures or radioisotope studies: maternal somatic, fetal somatic, and fetal genetic effects.

Positive steps can be taken such that the total radiation exposure of the human race can be lessened.

Muller,[26] who first noted mutant effects, so aptly sums up the problem: "We must remember that the thread of germ-plasm which now exists must suffice to furnish seeds of the human race even for the remote future. We are the present custodians of this all-important material, and it is up to us to guard it carefully and not contaminate it for the sake of an ephemeral benefit to our own generation."

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(*Continued on page 127*)

The Innocent Systolic Murmur*

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THE RECENT MATURATION of cardiac surgery has stimulated great general interest in the detection of potentially correctable heart lesions. Thus, a heart murmur, no matter how faint, attracts greater attention from the physician than previously. This is, of course, desirable to a certain extent. However, the indiscriminate referral of patients, with no heart disease, to cardiologists for evaluation will generate, unnecessarily in too many patients, psychic trauma, often irreversible. I do not believe it is widely enough appreciated how often patients, despite explanation and reassurance, continue to consider themselves to have a "heart condition" or a "heart murmur." An example of the magnitude of this situation may be found in an analysis of all the new referrals to our Cardiology Clinic in the year 1960. Of 1,044 new patients referred for consultation 17 per cent, or 180, were considered to have an innocent murmur. (Innocent and functional are used synonymously in this discussion.) One third of all the new patients had no heart disease. Of this group 56 per cent were referred for the evaluation of a murmur, considered by us to be innocent.

The diagnosis of the innocent murmur may often be a positive specific one rather than one arrived at by exclusion. The tools of diagnosis are the usual ones, widely available—the history, physical examination, roentgenogram of the chest, and electrocardiogram. Physical examination is the single most important method.

Although sounds, nonpathologic in nature, may be heard in diastole, these are uncommon, and this discussion will be limited to systolic sounds. Innocent murmurs are generally not loud and are almost always less than grade III in intensity, although they may be at times grade III, especially in children.

A grade I murmur is a faint sound which may not be immediately heard when the stethoscope is placed on the chest but can be heard after a period of careful listening. Such a murmur in systole is always innocent and may be immediately dismissed from any further consideration. Grade II is the lowest intensity sound that may be easily heard as soon as the stethoscope is placed on the chest. Grade IV is a loud murmur and grade III is easily heard and is between II and IV in intensity; that is, it is moderately loud but without a thrill. If one chooses to use grades V and VI, these are reserved for very loud murmurs, V representing a sound which is heard even with the stethoscope barely touching the skin and VI representing a sound that can be heard with the stethoscope off the chest. Therefore, regardless of whether one uses IV or VI grades, I to IV mean the same.

An innocent murmur is never holosystolic (throughout systole). The converse is, of course, not true. For example, the murmurs of aortic stenosis, pulmonic stenosis, or atrial septal defect are less than holosystolic. A holosystolic murmur begins immediately with the first sound and fills systole, ending at the second sound (figure 1). A typical example is the murmur of the ventricular septal defect or of mitral regurgitation. A gap between the first sound and the onset of the murmur and/or between the murmur and the second sound can be appreciated in the shorter murmurs.

The effect of respiration, body position and exercise are rarely helpful in distinguishing innocent from organic murmurs, and these maneuvers have been overemphasized.

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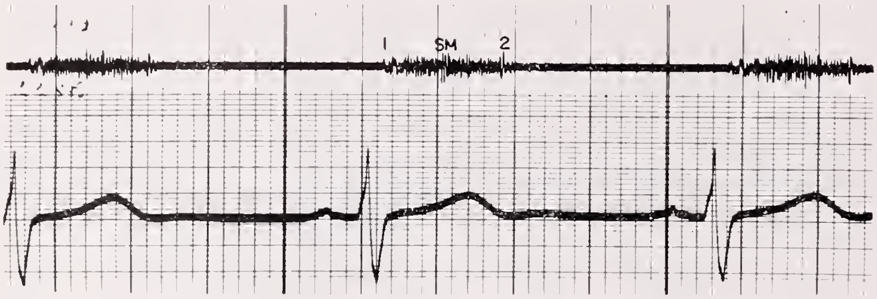

Fig. 1. Holosystolic murmur recorded from a child with a ventricular septal defect. The murmur (SM) begins immediately with the first sound (1) and extends completely through systole to the second sound (2). There is slight accentuation in midsystole.

The presence of a thrill is primarily a function of the loudness of a murmur and has no other special implication. One does not feel a thrill with the usual innocent murmur because these murmurs are not loud enough. Vibrations of the chest wall due to the apical impulse or pulsation of the pulmonary artery may be misconstrued as thrills, but if one hears a murmur of less than grade III intensity there is certainly no true thrill present.

What are some of the specific qualities of an innocent murmur? There are several well-defined types of innocent murmur. In childhood, when such murmurs are very frequent, there are two distinct varieties most commonly heard. The most frequent is the short early to mid-systolic buzzing, musical or vibratory murmur, usually best heard about midway between the lower left sternal border and the apex and transmitted well up along the left sternal border. It is not heard in the back. When recorded by the phonocardiogram (figure 2) it is characterized by even "picket fence" undulations[1] of moderate frequency, usually about 70 to 130 cycles per second.[2] Its origin is unknown but may be extracardiac, although it might originate in the right or left ventricular outflow tract. This murmur is uncommon in adults, although it is occasionally heard. About 60 per cent of the innocent murmurs in our children were of this type.

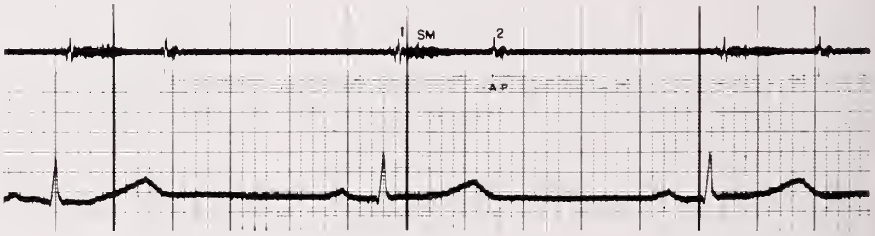

Fig. 2. Vibratory or musical innocent murmur. The murmur covers only the first half of systole. The deflections are relatively even compared to other murmurs. Notice the narrowly split second sound.
a = aortic valve closure
p = pulmonary valve closure

The other common type is the pulmonary artery flow or ejection murmur which is also early to midstystolic, low-pitched, harsh or scratchy, sometimes blowing, and of relatively low frequency. It usually tends to be crescendo-decrescendo, ending before the second sound and with its peak intensity in early to mid-systole (figure 3). This is caused by ejection of blood into the pulmonary artery and has been demonstrated by intracardiac phonocardiography to be present in all normal people.[3] It is common in children, probably because of the combination of increased velocity of blood flow, relatively prominent main pulmonary artery, and thin chest wall. Any situation which results in increased cardiac output, such as fever, anemia, thyrotoxicosis or pregnancy, will bring out or accentuate such a murmur. Other factors which may favor the presence of this murmur are pectus excavatum or other chest deformities which may favor proximity of the pulmonary artery to the chest wall. Idiopathic dilatation of the pulmonary artery is frequently, though not invariably, accompanied by a flow murmur. This murmur is generated in a manner similar to that of an atrial septal defect and of pulmonary stenosis. It is best heard directly over the pulmonary artery in the second left intercostal space next to the sternum and transmitted toward the left infraclavicular area. Unlike atrial septal defect and pulmonary stenosis it is usually not well heard in the neck or in the back, but this is probably a function, for the most part, of its magnitude. Although this particular murmur is very frequent in childhood, it is also the most common type of innocent murmur heard in adults.

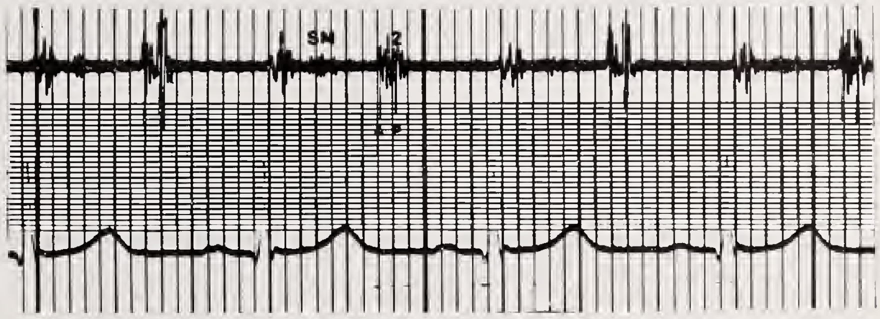

Fig. 3. Pulmonary artery flow or ejection innocent murmur in a seven-year-old child in whom cardiac catheterization revealed no abnormalities. The murmur (SM) is short, early to midsystolic. Note the murmur-free gap before the second sound (2). Also note the normal splitting with no more than 0.04 second between aortic and pulmonic components (A, P).

The cardiorespiratory murmur is another nonpathologic sound heard over the chest. This is definitely extracardiac in origin and may be heard over the apex or sometimes the upper left sternal border. It is characterized by a superficial, short, late systolic, scratchy or sometimes loud blowing murmur which increases in intensity, in crescendo fashion, with inspiration, and reaching its peak intensity at the height of inspiration. It is not heard when the breath is held in expiration. Its genesis is probably a result of imposition of lung tissue between heart and chest wall as the lung inflates with inspiration. A special form of this may be the so-called systolic whoop, which may be very loud and high-pitched.[4] Perhaps also in this category is the short systolic murmur, without the crescendo response to inspiration, which is very close to the ear, scratchy or crunching in quality, and heard over the pulmonary artery. This virtually disappears with the breath held in inspiration. It is not too unlike the sound of a mediastinal crunch which has been compared to the sound made by walking in fresh snow. (In fact, this sign of mediastinal emphysema should be kept in mind lest it be mistaken for an organic heart murmur.) Another somewhat similar sound in the second left interspace is the scratchy superficial sounding systolic murmur probably created by rubbing of a dilated pulmonary artery against the sternum, as may occasionally be heard in acute pulmonary embolism.

Discrete sounds, not having the duration to be called a murmur, may be present in systole without pathologic significance. A systolic ejection sound is not infrequently heard in young adults without heart disease and probably represents sudden distention of the walls of the pulmonary artery at the phase of rapid ejection of blood. The presence of this sound may be favored by idiopathic dilatation of the pulmonary artery or by pregnancy. The ejection sound is usually best heard at the lower left sternal border and over the pulmonary artery, but occasionally it originates in the aorta, in which case it may be better heard at the apex and in the second right intercostal space at the sternal edge.

The systolic click is a loud, high-pitched clicking sound usually heard more toward midsystole than the ejection sound and is probably extracardiac in origin. It has no pathologic significance, although not infrequently a past history of pneumonia, chest injury, or pericarditis suggests that it may in some way be related to a pleural pericardial adhesion.

The venous hum is a continuous murmur extending through the second sound and throughout systole and diastole. It deserves mention here because occasionally in children in the sitting position, faint transmission down over the chest may result in confusion with a systolic or a diastolic murmur or with a patent ductus arteriosus. The important thing here is to trace the murmur to its site of maximal intensity at the base of the neck where it will be heard as an obviously continuous roaring sound. It can be obliterated by compressing the jugular vein above the stethoscope, or diminished by varying the position of the neck in a manner to relax the jugular vein.

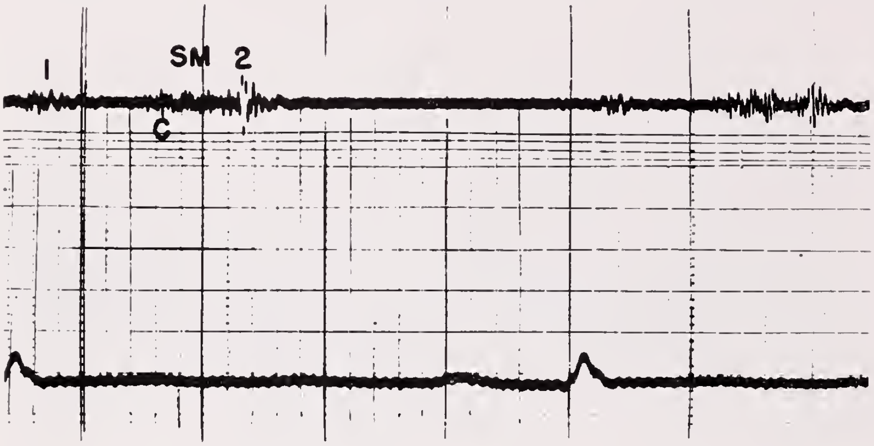

Fig. 4. Late systolic extracardiac murmur. The murmur (SM) begins in midsystole and extends up to the second sound (2). A systolic click (C) is present at the onset of the murmur.

There are several less frequent though somewhat spectacular innocent murmurs to be mentioned briefly. These are usually quite loud in contrast to the generalization made above about the common types. A high-pitched, harsh, late systolic crescendo murmur may be heard at the apex. It is quite easy to ascertain that it starts at about midsystole and ends at the second sound (figure 4). Sometimes it is initiated by a systolic click. This is most likely an extracardiac murmur. Various types of very loud superficial sounding vibratory or musical murmurs have been described which may be intermittently or constantly present. They may be as loud as grade VI without evidence of underlying heart disease, and even at autopsy a cause may not be found.[4] These murmurs may present diagnostic problems but are uncommon and are mentioned here only for the sake of completeness.

When confronted with a patient who has a systolic murmur heard over the chest the physician may follow a consistent, orderly pattern of thinking to appraise it intelligently. If it is not holosystolic and is, in addition, less than grade III in intensity, ventricular septal defect and mitral regurgitation may be excluded. If it is less than grade III in intensity, not rough, crescendo-decrescendo, and not well heard over the second right interspace, aortic stenosis is unlikely. Therefore, remembering that the two most common types of innocent murmur are short and early to midsystolic in time, are harsh, scratchy, or buzzing in character and are best heard over the second left interspace at the sternal border and/or at the lower left sternal border, very few organic heart murmurs have to be considered in the differential diagnosis. Before considering any systolic murmur innocent, one should consider three possibilities, all of which may have relatively unimpressive sounding murmurs.

The murmur of coarctation of the aorta may be relatively faint over the aortic area and/or apex but is usually loudest over the thoracic spine. The evaluation of any murmur must include careful auscultation over the back. Furthermore, the coarctation murmur, though less than holosystolic, is late systolic in time, high-pitched, and harsh. The evaluation of any murmur is never complete without simultaneous palpation of the radial and femoral pulses and measuring the blood pressure in the legs.

The murmur of atrial septal defect is not per se diagnostic. In fact, it may sound identical to the innocent pulmonary artery flow murmur, inasmuch as it too is generated in the pulmonary artery. It is usually fairly well transmitted through to the back over the left scapula. The innocent flow murmur is not usually well heard here but may occasionally be faintly transmitted through. The atrial defect murmur is frequently no more than grade III in intensity but is often longer than the innocent murmur (figure 5). The ancillary physical diagnostic features found in atrial septal defect must be looked for. The second sound in the pulmonary area is almost always widely split, usually with very little, if any, narrowing of the split on expiration. A diffuse right ventricular lift is often palpable along the left sternal border. A more localized pulsation of the main pulmonary artery may be felt in the second left intercostal space at the sternal edge. With the patient's head elevated to at least 30°, prominent supraclavicular venous pulsations are very commonly evident. Finally, careful auscultation, in diastole, along the mid- and lower left sternal border often reveals a short, early to mid-diastolic, harsh, scratchy, rumbling murmur.

Final consideration must be given to mild pulmonary stenosis. Moderate to severe pulmonary stenosis produces the characteristic rough crescendo-decrescendo systolic murmur in the pulmonary area. However, pulmonary stenosis, with a gradient in the range of about 15 to 35 mm. Hg across the pulmonary valve, produces a murmur which may be indistinguishable from that of an atrial septal defect or, in fact, that of an innocent pulmonary artery flow murmur. The clue to the correct diagnosis is a widely split second sound in the pulmonary area which lacks a normal variation with respiration. The pulsation of a dilated pulmonary artery may be palpable in the second left interspace. A systolic ejection sound may be present. This murmur, like that of the atrial septal defect, is usually surprisingly well heard in the back over the left scapula or in the interscapular area, even though it is usually no louder than grade III. It may also be transmitted into the left side of the neck. The other ancillary features associated with atrial septal defect are lacking.

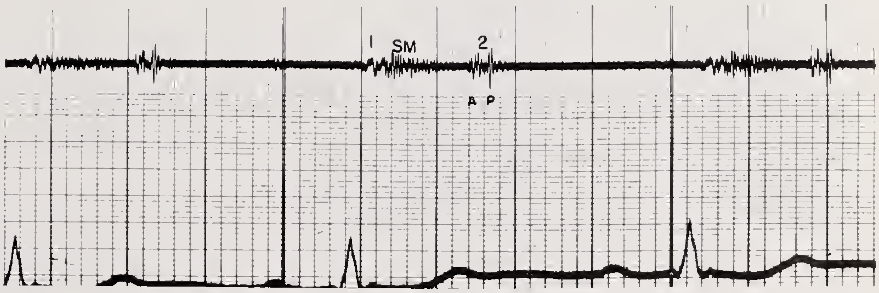

FIG. 5. Atrial septal defect. The murmur (SM) is early to midsystolic and crescendo-decrescendo in shape. Note the murmur-free interval before the second sound (2) in contrast to figure 1. Despite the similarity to figures 2 and 3, note the wider split of the second sound, with up to 0.07 second between aortic and pulmonic components.

It should be apparent from this discussion that the physical examination alone can generally provide all the clues necessary for the diagnosis of the innocent murmur. Occasionally, when doubt remains the chest roentgenogram and electrocardiogram will suffice to complete the evaluation. Although the overall heart size on the X-ray film may be normal in atrial septal defect, pulmonary stenosis, coarctation, and aortic stenosis (and in fact is usually so in the latter three), other features will be present with these conditions. Enlargement of the main pulmonary artery is almost always present in atrial septal defect and in pulmonary stenosis no matter how mild. The pulmonary vascularity is increased in atrial septal defect. Poststenotic dilatation of the ascending aorta is frequently present in aortic stenosis. Notching of the ribs should be looked for in coarctation.

A normal electrocardiogram, although reassuring, must be evaluated only in the light of the other clinical findings. Thus, mild pulmonary stenosis, atrial septal defect, mild aortic stenosis, mild mitral regurgitation, small ventricular septal defect, mitral stenosis, and coarctation of the aorta may be associated with a normal tracing. An rr′ in leads V_3R and/or V_1 is seen in normal people but is so common in atrial septal defect and mild pulmonary stenosis that its absence, in conjunction with the absence of the ancillary features on physical and X-ray examination enumerated above, virtually excludes these diagnoses.

In general, it should be emphasized, the history and overall physical examination must be taken into account. Thus, although many forms of cyanotic congenital heart disease produce nonspecific murmurs, cyanosis is evident and the history of easy fatigue, squatting, or syncope important. The second sound at the pulmonic area is of extreme importance inasmuch as pulmonary hypertension may modify the usual murmur of the basic defect, such as a ventricular septal defect, for example, so as to make it short and nondiagnostic. The loud snapping second sound, narrowly split, or even single, serves as a clue to the abnormal dynamics, however.

An analysis of the 180 innocent murmurs seen in our clinic in 1960 shows that 46 per cent occurred in children under the age of 12, 6 per cent were associated with pectus excavatum or similar chest deformity, and 4 per cent were in pregnant women. (This does not reflect the true indication of pregnancy as a factor, inasmuch as most of the pregnant women are referred to our separate obstetrical abnormality clinic and are not included in these figures.) Thus, when the miscellaneous cases of anemia, thyrotoxicosis, etc. are included, it can be seen that the majority of cases represented either children or patients with obvious extracardiac mitigating factors. There remain in our group 23 per cent in the 12–25 age group and a sizable 20 per cent in the age over 25, most of whom were in the fourth or fifth decade of life.

In summary, the diagnosis of innocent or functional murmur can be confidently made in the patient who has:

1. A grade I–III short, early to midsystolic buzzing or musical murmur loudest at the mid-left sternal border or between the lower left sternal border and apex; or

2. a grade I–III superficial, sounding close to the ear, short, harsh, blowing or scratchy systolic murmur over the pulmonary artery or apex, especially if it increases in intensity in crescendo fashion with inspiration and is absent or greatly diminished with the breath held; or

3. a grade I–III short, early to midsystolic harsh murmur over the pulmonary area which is inaudible or only faintly audible in the neck or back, is associated with a normal second sound in the pulmonary area, and is not associated with a right ventricular lift, prominent supraclavicular venous pulsations, or a diastolic murmur. Predisposing factors such as childhood, pregnancy, chest deformity, fever, anemia, or thyrotoxicosis lend support to the diagnosis of an innocent murmur of this type.

Vigilance in the detection of early or mild heart disease must not be relaxed, but consideration must be given to the potential harm which may be invoked by premature diagnosis or even suspicion. A simple but systematic approach to the evaluation of a heart murmur can contribute to a confident positive diagnosis of "no heart disease."

Men are often deceived by their ears as by their eyes; and they may hear ghosts as well as see them (Latham 1847[5]).

(*Continued on page 127*)

Pulmonary Cryptococcosis

Report of Three Cases

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SOLITARY PULMONARY NODULES and infiltrates remain a diagnostic and therapeutic problem. The need for exploratory thoracotomy to identify and treat malignant disease is well recognized, having been stressed in many articles on solitary nodules.[1, 2, 3] The need for excision of certain "benign" lesions is perhaps less well recognized. Cryptococcosis is a relatively rare cause of such "benign" lesions, only one or two cases being included in most series of solitary nodules and granulomas.[1–5] It represents a fungal infestation which may be fatal if dissemination occurs. To stress the need for excision of such undiagnosed lesions, and to discuss cryptococcosis, the following three cases are reported.

REPORT OF CASES

Case 1. O. B., a 38-year-old white man, was admitted to this hospital on June 1, 1960 for evaluation of an asymptomatic density in the left upper lung field. This density, about 3 cm. in diameter, was noted on a routine chest roentgenogram (figure 1) taken when the patient returned from two and one-half years of duty in India. No calcium was identified in the lesion. X-ray films made prior to his tour of duty in India were normal. The PPD was faintly positive. Other skin tests, bronchoscopy, and scalene node biopsy were all negative. Culture and cell block of bronchial washings were also negative. A left upper lobectomy was done on July 5, 1960 to remove a firm nodule deeply placed in the lobe. There was no evidence of additional lesions in the left lung at the time of surgery. The frozen section showed large fungal organisms typical of *Cryptococcus neoformans*. Permanent sections showed the organisms to be confined to the thick-walled granuloma, none being found in the surrounding lung tissue. The postoperative course was entirely uneventful, and the patient was discharged well. He remains in good health at the time of this writing.

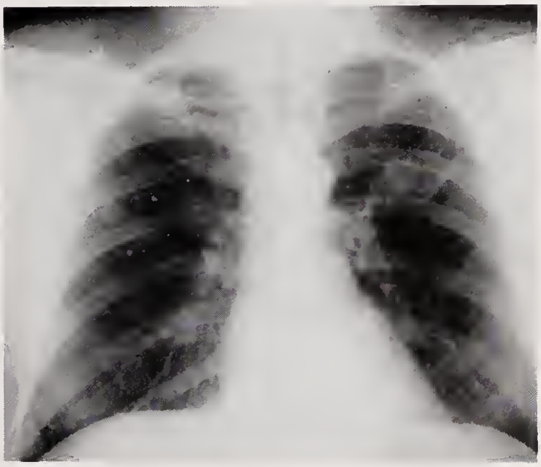

FIG. 1. Case 1. Nodular density in left upper lobe.

Case 2. F. U., a 48-year-old white man, was admitted to this hospital on December 15, 1958 for evaluation of an asymptomatic solitary pulmonary nodule in the right lower lobe (figures 2 and 3). The work-up was negative except for skin tests, which were positive for tuberculosis and histoplasmosis and negative for coccidioidomycosis. At operation on December 23, 1958 a 1.5 cm. granuloma just beneath the visceral pleura was removed by wedge resection. The postoperative course was uneventful and the patient was discharged well. Pathologic diagnosis was granuloma, right lung, cryptococcosis. He remains in good health to date.

Case 3. D. M., a 31-year-old white man, was admitted to this hospital on June 9, 1952 for evaluation of an asymptomatic infiltrate in the right middle lobe (figures 4 and 5), first noted on a routine roentgenogram for reënlistment. Skin tests for tuberculosis, histoplasmosis, and coccidioidomycosis were negative. Bronchoscopy showed minimal narrowing of the right middle lobe orifice. Although the patient remained asymptomatic, subsequent roentgenograms during the work-up showed an increase in the size of the lesion. On August 21, 1952 a right middle lobectomy was done. The pathologic diagnosis was pneumonitis due to *Cryptococcus neoformans*. The man remains in good health to date.

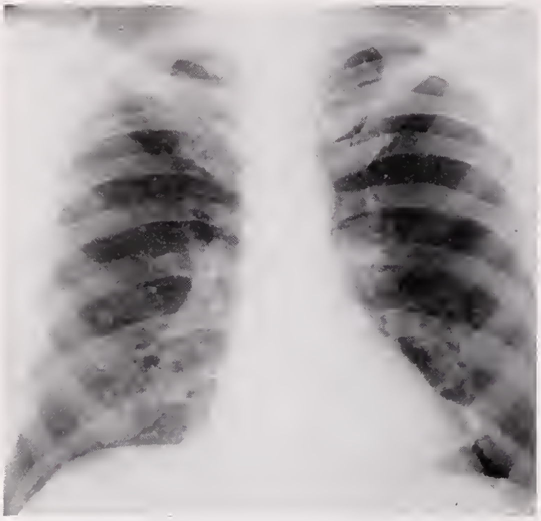

FIG. 2. Case 2. Solitary nodule in right upper lobe.

DISCUSSION

The exact mode of transmission of the fungus *Cryptococcus neoformans*, or *Torula histolytica*, to man is not known. However, it is thought not to be highly pathogenic and not to be transmitted from man to man or from animals to man. It is ubiquitous, occurring widely throughout the world, with over 40 strains having been identified. It has a large gelatinous capsule (figure 6), making it easily demonstrated by India ink preparations, methenamine-silver stains, and even in methylene blue stained frozen sections. The best growth on Sabouraud's medium is at room temperature, and growth is inhibited at 40° C. Strangely, the rabbit, whose normal body temperature is 39.4° C, is practically immune to infection. This would suggest fever therapy in treatment of the disease, but results have been disappointing. Intracerebral injection into rats and mice of infected material such as cerebrospinal fluid will usually cause death of the animal in less than 14 days, after which the organisms can be identified in smears of brain and other tissues.[6]

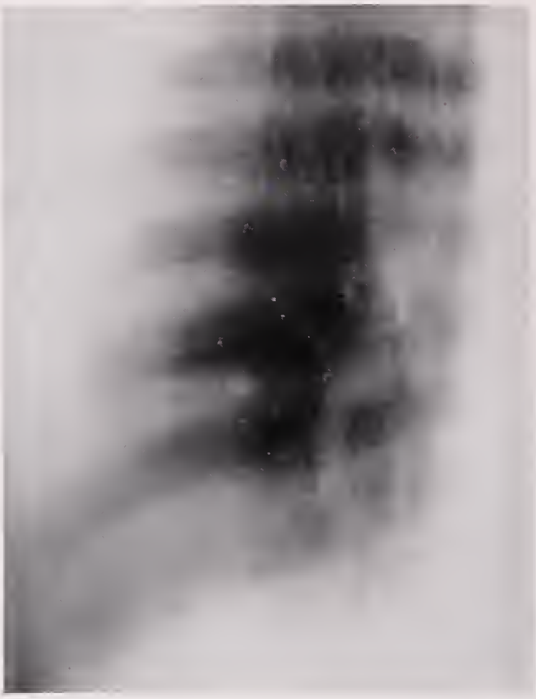

FIG. 3. Tomogram of the nodule shown in figure 2.

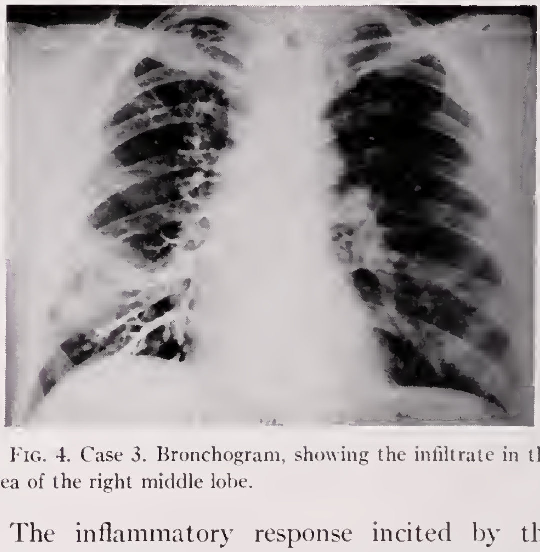

FIG. 4. Case 3. Bronchogram, showing the infiltrate in the area of the right middle lobe.

The inflammatory response incited by the fungus is of a mild, chronic, granulomatous type, so that the clinical onset may be most insidious. Indeed, the infestation may remain localized, as in a pulmonary granuloma, for many years and become symptomatic only when, and if, it disseminates. Even after dissemination the symptoms are often those of chronic granulomatous reaction in the central nervous system, bones, skin, liver, spleen, and other viscera.

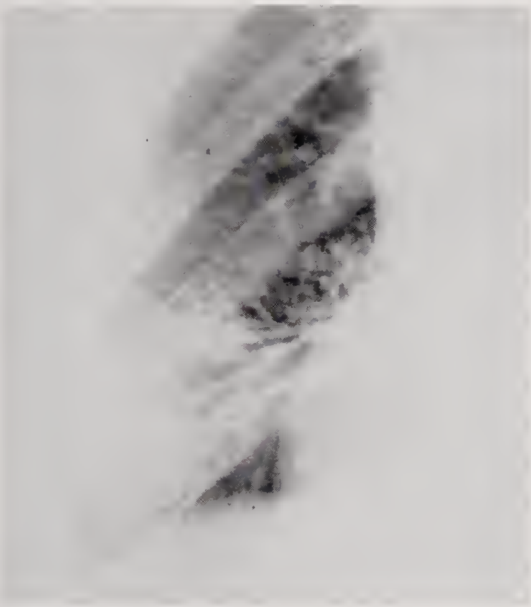

FIG. 5. Spot film of the density shown in figure 4.

Patients with central nervous system involvement may have papilledema and focal neurologic signs suggestive of a brain tumor. Usually, however, a low-grade meningitis is present leading to a diagnostic lumbar puncture. Since the organism can often be identified in the spinal fluid by culture or India ink preparations, it is important to entertain this diagnosis and initiate these studies. In two of the cases reported here the organism localized in the peripheral lung tissue, causing the typical granulomatous reaction. In the third case a chronic pneumonitis involved the entire middle lobe.

In prior years the presence of disseminated disease and central nervous system involvement carried a uniformly fatal prognosis. Although the course was usually of a few months' duration, patients would rarely survive for many years before succumbing to the disease. However, since the introduction of Amphotericin B reports[7, 8, 9] have been published of apparent cure, or at least arrest, of the disease.

Cryptococcosis has been reported as a complication of reticulo-endothelial diseases, particularly Hodgkin's disease and sarcoidosis.[10, 11] The significance of this association is yet to be explained. However, it is known that the fungus itself can produce bone, skin, and other tissue granulomatous lesions suggestive of sarcoid, as in the case reported by Shields.[8]

The three cases reported here illustrate the usual clinical picture as seen by the chest surgeon, namely, an undiagnosed, usually asymptomatic, pulmonary nodule or infiltrate which may have the appearance of an infiltrating carcinoma. In our opinion, all such undiagnosed lesions should have an exploratory thoracotomy.

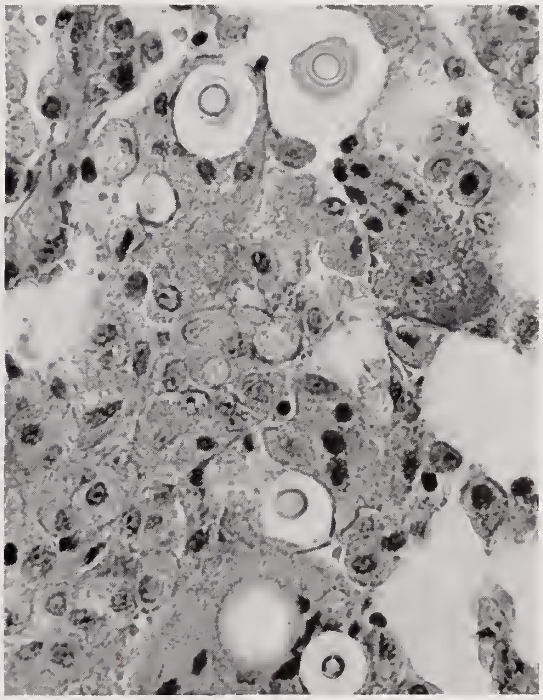

FIG. 6. Photomicrograph of the lesion from case 3, showing the large gelatinous capsule typical of cryptococcosis.

Indeed, if the diagnosis is made preoperatively, as by recovering the organism from bronchial washings, the possibility of the fungus being already disseminated exists and therapy with Amphotericin B may be indicated.

The disseminated form of the disease may occur without obvious prior localization in the lungs. Also, dissemination with cerebral involvement and death may occur many years after resection of an apparently localized pulmonary nodule.[12] The question arises, then, whether or not the pulmonary localization is significant in causing the later spread, and whether or not resection does anything to prevent this spread. Although this question is not settled, we concur in the opinion expressed by Kuykendall et al[13] that resection of any localized focus offers the best chance to permanently eradicate the disease.

SUMMARY

Three cases of pulmonary cryptococcosis have been reported. Although the exact mode of transmission and dissemination of the organism is unknown, early resection of localized granulomas or infiltrates may prevent later spread. This, combined with chemotherapy when indicated, appears to be the treatment of choice at the present time.

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Hyperkalemia Associated with Sodium Restriction

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CONGESTIVE HEART FAILURE is a common complication of congenital heart disease. A review of 1,580 cases of congenital heart disease shows the occurrence of congestive heart failure in 20 per cent of the reported cases. This complication usually occurs during the first year of life.[1]

The treatment of congestive heart failure is well standardized. Among the more important aspects of treatment are the correction of anatomic defects, when possible, rest, and the use of digitalis and diuretic agents. In refractory cases dietary sodium restriction is frequently employed. The report that follows is that of a case of fatal potassium intoxication presumed to be secondary to the use of a low-sodium, potassium-rich diet (Lonalac) and mercurial diuretics.

REPORT OF CASE

R. C., a 13-week-old female baby, was born on November 30, 1955 at the U. S. Naval Hospital, Bethesda, Maryland. The pregnancy was normal and was estimated to be 40 weeks in duration; the birth weight, however, was only 2,000 Gm. The infant was listless and weak from birth. Gavage feedings were necessary, but the infant's weight gain was extremely slow. At 4 weeks of age rapid grunting respirations developed. A roentgenogram of the chest demonstrated cardiac enlargement; the electrocardiogram revealed high voltage with probable biventricular enlargement (figure 1). A day later a grade III harsh systolic murmur was heard in the second and third left interspaces. The peripheral pulsations were full and bounding and capillary pulsation was noted. When the child was ten and one-half weeks old the weight had stabilized at 2.2 Kg.; she was discharged from the nursery but was readmitted to the hospital at 13 weeks of age because of dyspnea.

On admission the infant was pale and scrawny; her weight was 2.6 Kg. The temperature was 39.4°C, the pulse rate 190 per minute, and the respiratory rate 60 per minute. There was flaring of the alae nasi, and

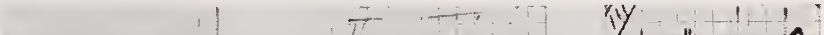

FIG. 1. High voltage, suggesting biventricular enlargement.

rales were heard in the right posterior base of the lungs. The liver edge was felt 4 cm. below the right costal margin. Great enlargement of the heart was again noted on a roentgenogram. The leukocyte count was 17,700, with 54 per cent segmented cells, 37 per cent lymphocytes, and 9 per cent monocytes. The concentration of hemoglobin was 10 Gm. per 100 ml. of blood.

The child was given 0.12 mg. of Digoxin and 300,000 units of penicillin during the first hospital day. The following day she became afebrile, the breathing became more easy, the liver edge receded, and she had a weight loss of 300 Gm. A maintenance dose of 0.012 mg. of Digoxin was continued, and the child was discharged a week after admission. She was 14 weeks old at this time and weighed 2.3 Kg.

Four days later she was again admitted to the hospital because of rapid and labored breathing. She now weighed 2.5 Kg. The pulse rate was 180 per minute, and the liver edge was palpated 3 cm. below the costal margin. Thiomerin, in a dose of 0.25 ml., was injected intramuscularly, and in a period of 24 hours a 500 Gm. diuresis occurred. The maintenance Digoxin dosage was increased to 0.02 mg. a day.

Despite these measures the child's weight climbed to 2.8 Kg. in 3 days. Tachypnea and hepatomegaly were again noted. A 300 Gm. weight loss followed 0.25 ml. of Thiomerin administered intramuscularly. In spite of the diuresis respiratory distress was still present and the liver remained larger than normal.

At 15 weeks of age a low-sodium milk formula (reconstituted Lonalac) was started as the child's sole food. This formula was well tolerated; she drank between 480 and 600 ml. daily. Ten days later her weight was again 2.8 Kg., and because of increasing respiratory distress 0.25 ml. of Thiomerin was administered intramuscularly, resulting in a diuresis of 250 Gm.

The following day cardiac catheterization was performed through the right femoral vein using a no. 5 Cournand cardiac catheter. This was passed into both atria, the right ventricle and the aorta. The exact route by which the catheter entered the aorta was uncertain (figure 2), since there was no discernible change in the pressure in the aorta between the descending aorta and the aortic arch. Blood samples indicated some arterial unsaturation, with mixing of the arterial and venous blood in the atrium. There was no significant increase in oxygen saturation between the right atrium and ventricle. The blood withdrawn for analysis was replaced by transfusion. The child withstood cardiac catheterization quite well. For 3 days after this procedure her weight was 2.2 Kg., she was breathing normally, the pulse rate was 120 per minute, and the liver edge was barely palpable.

Two days later the child's temperature rose to 39.3°C. The white blood cell count was 18,800, with 64 per cent segmented cells. The concentration of hemoglobin was 10.1 Gm. and the hematocrit was 31 per cent. The infant was given a broad spectrum antibiotic by mouth and was afebrile within 24 hours. The following day she appeared alert and was taking the Lonalac formula avidly, consuming 520 ml. in a 24-hour period. The next morning her condition had deteriorated and she appeared moribund. The fontanelle and eyes were sunken, and the respirations became gasping and irregular. The infant became hypotonic and lapsed into coma. The electrocardiogram showed great increase in voltage with tent-shaped T waves (figure 3). Serum potassium concentration at this time was 9.8 mEq./l. An infusion of 5 per cent NaCl was given, and 4 units of regular insulin was administered. Two hours later the pulse rate abruptly slowed from 100 per minute to 40 per

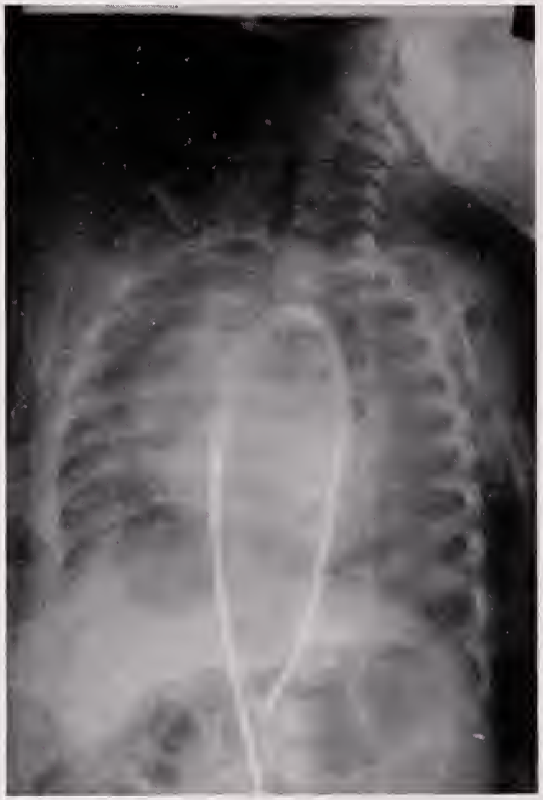

FIG. 2. Cardiac catheter within the aorta, the exact route by which the catheter entered the aorta being uncertain.

minute. The coma deepened, and the child's respirations became slow and irregular. She was pronounced dead at 8:00 p.m. At the time of death she was 17 weeks of age.

At necropsy the heart was found to be greatly enlarged and weighed 48 Gm. The pulmonary artery was dilated, and a large ductus arteriosus was present (figure 4). The left ventricular wall measured 1.5 mm. The diameter of the ductus arteriosus was 4.5 mm. A defect of the membranous interventricular septum measuring 3 mm. was also present. Microscopically there was chronic passive congestion of the lungs and of the liver. The kidneys and the adrenal glands were found to be normal.

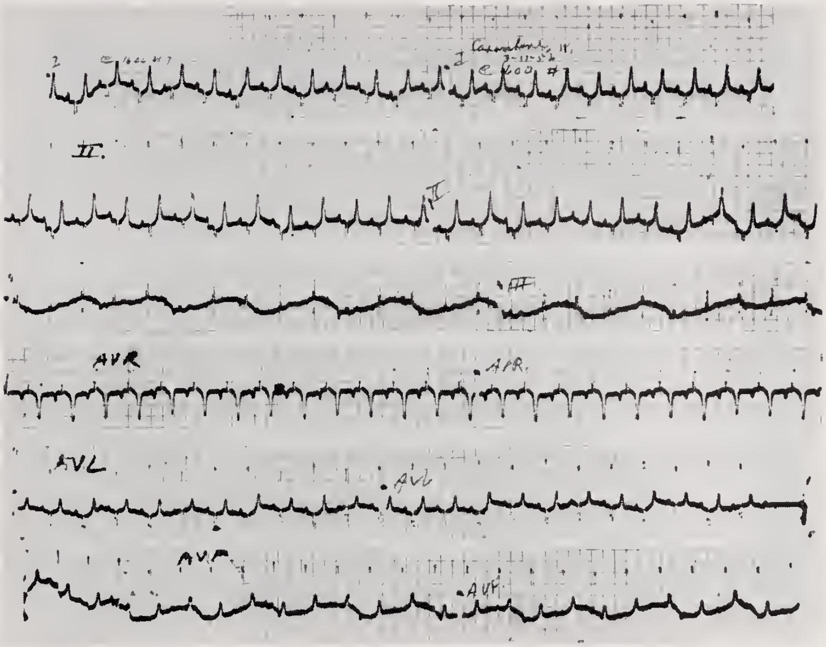

FIG. 3. Increased voltage with tent-shaped T waves, the pattern of potassium intoxication.

COMMENT

Dietary sodium restriction and mercurial diuretics are recommended therapeutic measures to be utilized in the treatment of children with congestive heart failure, according to Keith[1] and Lang and Nadas.[2] A specially modified milk preparation (Lonalac) is available for use when dietary sodium restriction is considered advisable. The composition of reconstituted Lonalac is compared with cow's milk in table 1.

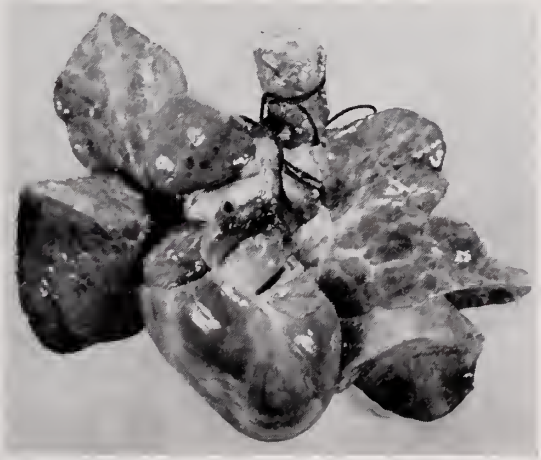

FIG. 4. Great cardiac enlargement with dilatation of the pulmonary artery and a large ductus arteriosus.

TABLE 1

Comparison of Composition of Cow's Milk, Human Milk, Lonalac, and Hepner's Formula

Formula	Gm./100 ml.			mEq./l.			K:Na Ratio	cal./liter
	Protein	Fat	CHO	Na	K	Cl		
Cow's milk	3.3	3.8	4.6	25	35	28	1.4	666
Human milk	1.25	3.8	7.0	6.5	14.5	12	2.2	670
Lonalac	3.4	3.5	4.8	1.1	33.3	14	33.0	666
Experimental formula of Hepner[4]	2.85	2.9	9.4	5.0	14.0	15	2.8	750

The sodium content of Lonalac is extremely low. When properly prepared Lonalac is isocaloric with cow's milk and, except for its low-sodium content, approximates cow's milk in its composition. Of special interest is the ratio between potassium and sodium, which is nearly 20 times greater in Lonalac than in cow's milk. Also listed in table 1 is an experimental formula used a few years ago by Hepner[3] to feed premature infants. This diet is low in sodium when compared to cow's milk, but the potassium concentration is also reduced, resulting in a fairly normal K/Na ratio. No abnormalities of the electrolytes were noted in the sera of infants taking this formula.[4]

According to Talbot[5] and Darrow and Pratt[6] the normal kidney under conditions of severe sodium restriction can produce a urine practically free of sodium. The estimated minimal sodium excretion is 10 mEq./ml. a day, and this is also the smallest amount of dietary sodium that can be ingested without the occurrence of a negative sodium balance. If Lonalac is used as the sole food of an infant, this minimal sodium need is not met and sodium depletion will occur. Burke[7] reported a case of growth failure and symptomatic hyponatremia occurring in a premature infant who was fed Lonalac for 43 days.

The minimal sodium excretion of 10 mEq./ml. a day may not hold true for the renal mechanism of a patient with congestive heart failure. It is well known that a tendency toward sodium retention accompanies cardiac failure. On the other hand, the increased excretion of sodium which results from the use of mercurial diuretics is well established and is the rationale for the use of these agents. Unfortunately, with the exception of potassium, we did not determine the concentration of other electrolytes in the serum of our patient. It seems reasonable that she was in a state of severe sodium depletion induced by stringent sodium restriction and the vigorous use of mercurial diuretics.

Bunge,[8] nearly 75 years ago, stated a reciprocal relationship between sodium and potassium which has been called "Bunge's Law." In essence, Bunge's law describes an excess loss of sodium in the urine when extra potassium is ingested. The K/Na ratio of Lonalac favors a renal sodium loss.

It has been well demonstrated that patients with congestive heart failure readily absorb potassium from the gastrointestinal tract.[9] However, their urinary excretion of potassium is markedly reduced. Significant rises in serum potassium levels were noted after the ingestion of oral potassium salts in this group of patients.

A report by Harned and Cooke[10] described two children who developed symptomatic hyperkalemia after prolonged sodium restriction because of congestive heart failure. These authors hypothesized that the potassium retention in these children was a result of hyponatremia. They believe that sodium ions are necessary for the renal excretion of potassium ions. In the renal tubule an ion exchange occurs, and for each potassium ion excreted one ion of sodium must be reabsorbed from the intratubular fluid. Severe hyponatremia may thus cause potassium retention.

These theories may well explain the pathogenesis of the severe kyperkalemia which we noted in our patient. The laboratory, electrocardiographic and clinical picture observed in this child were consistent with potassium intoxication. The direct sequence of events leading to this catastrophe is speculative in the absence of complete laboratory studies. However, on the basis of calculations of the electrolyte composition of Lonalac, and in the light of recent information, we believe that the use of Lonalac as the sole diet of an infant is attendant with some danger. Certainly, it should be realized that a Lonalac formula is as deficient in sodium as the "rice diet" of Kempner.[11] The high K/Na ratio of Lonalac is an additional complicating factor in the pathogenesis of hyperkalemia associated with stringent sodium restriction.

SUMMARY AND CONCLUSIONS

Fatal hyperkalemia associated with stringent sodium restriction because of congestive heart failure in an infant 17 weeks of age has been reported.

The pathogenesis of the hyperkalemia is thought to be the result of a low sodium milk

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Carcinoma of the Larynx

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CARCINOMA OF THE INTRINSIC LARYNX is a disease in which early diagnosis might almost be called tantamount to cure. Lederer[1] reported the astonishing fact that only 5 per cent of patients coming to the Illinois Eye and Ear Infirmary were considered operable. In 1957 Marchetta[2] reported that 60 per cent of cases had been treated for laryngitis before the diagnosis was made. Recent studies reveal that "chronic laryngitis," in more than half its incidence, is due to malignant disease. Even some of the benign lesions are suspect for eventual malignant change (figure 1). Only 16 per cent of patients having carcinoma of the larynx can be expected to survive five or more years, largely because the greater proportion have advanced disease. In 45 per cent of cases procrastination of the patients was responsible for the delay in diagnosis.

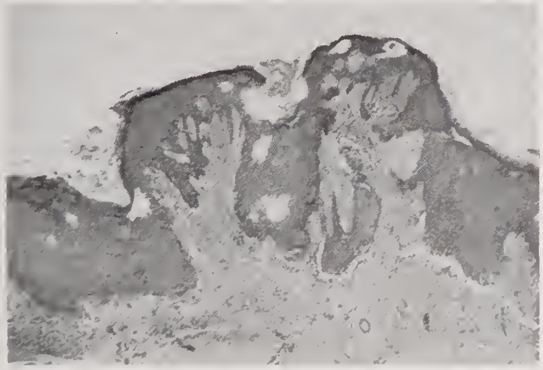

FIG. 1. Early malignant change beneath leukoplakia.

Carcinoma of the larynx is predominantly squamous-cell in character, although occasional cases of adenocarcinoma and sarcoma have been reported. The disease occurs primarily in the 40 to 60 age group, although four patients in their thirties have been seen in the past four years. The ratio of males to females is about 12 to 1. Local irritation has been thought to be important in the etiology, particularly heavy smoking. However, the male to female ratio has remained essentially unchanged in the past 20 years, seemingly a contradiction as more females are smoking now than in the early 1900's. It is undeniably true that most patients with carcinoma of the intrinsic larynx give a history of heavy smoking. Alcoholism may play a part in the pathogenesis of lesions of the hypopharynx but appears to have little connection with the intrinsic or chordal lesions. Vocal abuse has likewise been indicated, but the low incidence in professional singers and public speakers would appear to contradict this argument.

Many authors have stressed the need for a very accurate method of classification of this disease. The intrinsic-extrinsic description has given way to relating the lesion to the vocal cords, i.e., chordal, subglottic, supraglottic, and epiglottic. Grading of the tumor according to cell type is also important, even though different sections of the same tumor may show varying degrees of neoplasia. We do not intend to introduce additional terminology but merely to suggest that the infiltrative characteristics, both gross and microscopic, should be noted in addition to the site of origin.

Hoarseness is the early symptom of cancer of the true cords. Dyspnea and dysphagia are symptoms of advanced disease and indicate a

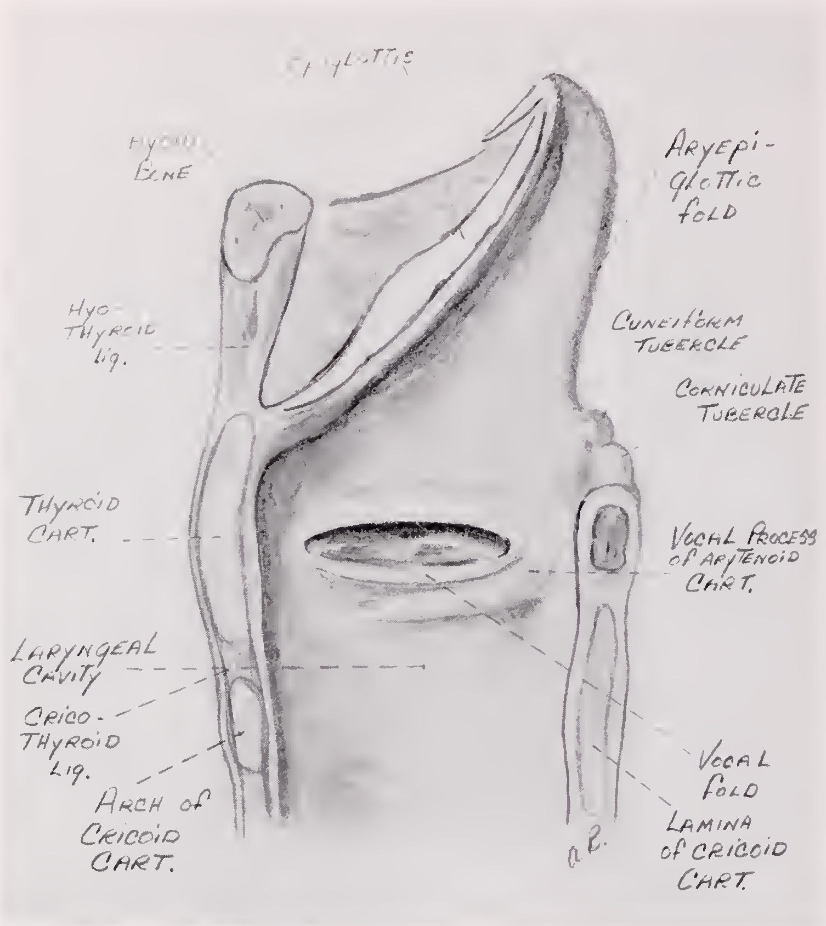

FIG. 2. Sagittal section of larynx.

poor prognosis. Cancer in the laryngeal ventricle may be silent for some time and when discovered may be past eradication. Fortunately, two-thirds of cancer of the endolarynx arise on the true cords and announce themselves early in the form of persistent hoarseness. Mirror laryngoscopy should be performed in all cases of persistent hoarseness, with direct examination and biopsy as indicated. The differential diagnosis is relatively simple, syphilis and tuberculosis being the only granulomatous diseases with which carcinoma is likely to be confused. The increasing rarity of these two diseases systemically has been reflected in almost disappearance of cases with local laryngeal lesions.

The treatment of carcinoma of the larynx is complete eradication by either surgery or radiation. As principles for therapy, radiation is the treatment of choice when the lesion is small and restricted to one vocal cord. With the supravoltage techniques there is minimal skin reaction following therapy, and the prognosis is about a 90 per cent five-year survival.[3] When the lesion involves more than the mid-portion of one cord the prognosis is only about 25 per cent survival by X-ray treatment as compared to 80 per cent by surgery. The surgical management depends entirely upon the extent of the lesion. When it is limited to one cord laryngofissure or hemilaryngectomy is the treatment of choice.[4] In more advanced lesions in which there is fixation of the cord or extension to the ventricle total laryngectomy is indicated. More advanced lesions require cervical dissection on the side of the lesion. Analysis of many cases shows that involvement by tumor of the arytenoid, aryepiglottic fold, pyriform fossa, and vallecula usually means early lymph-node metastases, so that a prophylactic cervical dissection should be done even though there are no palpable nodes.[5] In such cases metastatic disease can be found microscopically in a high percentage of cases.

There are certain anatomic factors (figure 2) about the larynx which make the prognosis for cure of carcinoma much better than lesions of the surrounding areas. First, the cords, ventricles, and ventricular bands are all surrounded by

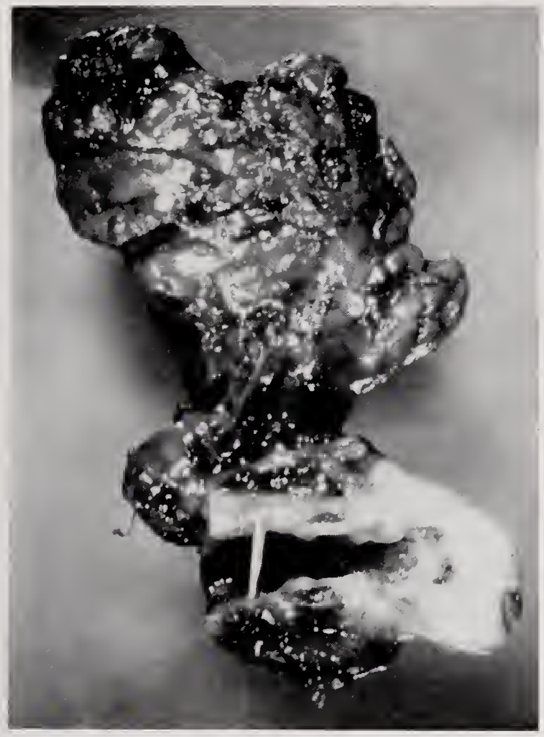

FIG. 3. Exophytic carcinoma without deep infiltration.

a cartilaginous framework. This cartilage tends to contain the direct spread of the tumor. Second, the lymphatic drainage from the larynx is very poor, and the usual mode of spread is by lymphatic rather than hematologic channels. Even in cases with metastasis the spread from the intrinsic larynx is first to the pretracheal and anterior jugular chain, so that cures are still possible by combining laryngectomy with cervical dissection.

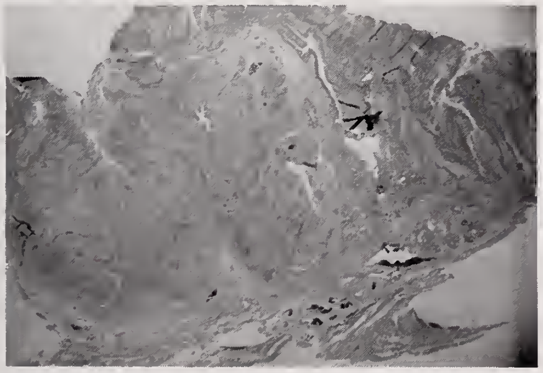

FIG. 4. Microscopic appearance of lesion shown in figure 3.

In our clinic we have been more and more impressed by the different gross appearances of the same disease. One carcinoma may demonstrate a large fungating mass without actually infiltrating into the deeper tissues (figures 3 and 4). This exophytic type growth has even been seen with almost a pedicle-type base with a large cauliflower-like growth on top of the stalk.

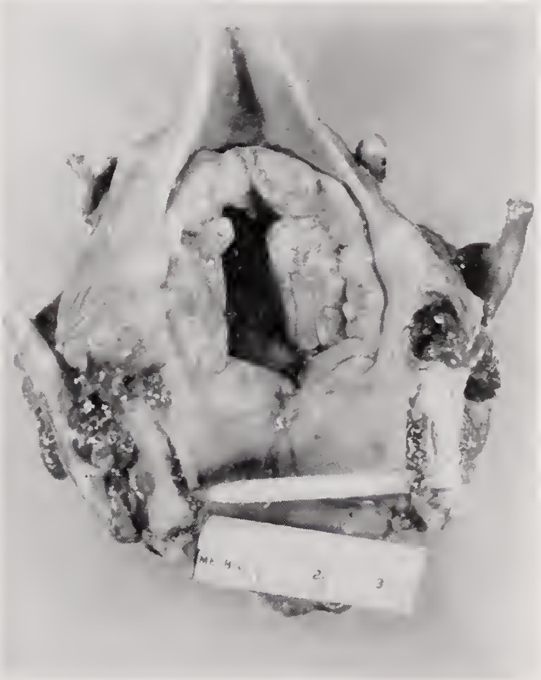

FIG. 5. Endophytic carcinoma with extensive infiltration and cervical node metastases.

A second or endophytic type may present superficially as a thickening or very small erosion, yet microscopic examination shows the lesion to have spread widely beneath the mucosa and perhaps even to have metastasized to the lymph nodes (figure 5). This may sometimes be found also beneath a lesion that clinically is typical of leukoplakia. It has been our experience that the majority of cases are of the endophytic type. Likewise, this tendency to involve the deeper tissues accounts for the fact that the lesion is

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The Physician and the Speech Pathologist

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When a physician and a speech pathologist work together, the speech pathologist is apt to have a better understanding of the functions of the physician than the physician has of the functions of the speech pathologist. The purpose of the following information is to help the physician increase his understanding of the work of the speech pathologist.

Speech is an acquired function; it is a part of the child's socialization to learn to understand and speak the language of his environment. Furthermore, none of the physical structures used in speech is primarily concerned with speech; speech is a secondary, superimposed function, borrowing many structures from the respiratory tract and the digestive tract when these structures are not employed in their primary biologic functions.

The development of speech. While speech is a learned function, it is acquired incidentally; it is not learned in a systematic manner like reading and writing. Obviously, this presents many problems. Consider the child of a night watchman in whose home silence must be maintained or he will not be able to sleep. Could his children be expected to develop speech readily? Environments differ so widely that it is difficult to understand how children learn to communicate as well as they do.

A child needs adequate hearing, neurologic function, intelligence, social-emotional maturity and speech structures, as well as oral language experience, in order to learn how to speak. He usually begins by making sounds as a part of his gross bodily activity; then he engages in vocal play; next he echoes the sounds he hears; and finally, he produces sounds which convey meaning. He usually uses his first word before the end of his first year of life. Then, he gradually expands his communication skills until, by his third birthday, he should have a vocabulary of nearly 1,000 words, use three-word sentences, and be 90 per cent intelligible. He should articulate all of the vowels and several of the consonants normally. Up to this point, there is so much variability in speech development that, unless there is an organic problem (such as congenital deafness), the principal function of the speech pathologist is to alleviate the anxieties of parents who compare their child with more precocious children.

The normal child articulates all consonants adequately and is 100 per cent intelligible by his eighth birthday. Consequently, any normal child who has not developed normal speech by his eighth birthday should be referred to a speech pathologist for a diagnostic consultation. Also, if there are questions about the maturation of a child's speech, or if the parents persist in their anxiety, the speech pathologist should be consulted.

The process of speaking includes respiration, phonation, resonation, articulation, and cerebration. Respiration provides the energy which activates the speech mechanism, exhaled air. Phonation is produced when the exhaled air passes through the larynx; the vocal folds either close and produce a vibrant noise we call voice or open and produce a friction noise we call whisper. Resonation occurs when the sound moves through the pharynx and mouth and/or nose; it gives the sound timbre and increases its loudness. Articulation is the process of moving the jaw, lips, tongue, and velum to produce vowels and consonants as the sound leaves the speech mechanism. Cerebration includes (1) interpreting sensory stimuli received from the hearing mechanism, (2) formulating the responses to be produced, and (3) initiating the appropriate innervating impulses which activate the speech mechanism to produce the speech response.

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Respiration provides the energy which activates the speech mechanism, an adequate supply of exhaled air flowing in a smooth, relaxed manner. Many people think that "the best way to improve speech and voice is to work on breathing." This is an unfortunate assumption and quite often seriously incorrect, since attempts to alleviate speech and voice problems by "improving" breathing may result in learning less adequate methods of breathing, such as clavicular breathing, as well as in injury to the vocal apparatus, such as contact ulcers of the arytenoid cartilages. Consider the case of the young "muscle man" who taught himself to "breathe from the upper chest" and thereafter had a halting, tense, breathy voice. There are instances in which people improve their voices by changing their respiratory habits, but these instances are comparatively rare; referring a patient to a speech pathologist for help with his respiration would be largely restricted to one whose voice is also affected.

Phonation involves the vibration of the vocal folds to produce voice. The speech pathologist works with psychogenic problems, such as hysterical aphonia; problems of inadequate function, such as inappropriate pitch; and physiogenic problems, such as total laryngectomy. Speech pathologists who are qualified psychotherapists are most helpful with these patients because difficulties in phonation often elicit considerable anxiety in a patient and social-emotional problems are often reflected in the voice; e.g., the inadequate, "henpecked husband" is hypernasal; the extrovert is excessively loud; and the tense "worrier" is frequently hoarse.

Occasionally the question of surgical intervention, as opposed to conservative treatment, arises, as in the case of vocal nodules. Speech pathologists specializing in this type of practice can often eliminate the necessity of surgery and, even when surgery is necessary, conservative treatment can help the patient by preventing recurrence of his symptoms.

Communication between the physician and the speech pathologist is imperative in these cases. Consider the case of the anxious, involutional matron who played her "two doctors" against each other. The patient should not be the medium through which communication takes place.

Resonation problems are largely confined to hypernasality and hyponasality. Hypernasality may be a psychogenic problem, such as the tense patient whose velum acts as a tympanic membrane and conducts the sound into the nose; a problem of inadequate function, such as an immobile velum following adenoidectomy; and a physiogenic problem, such as congenital cleft palate. In some regions hypernasality is normal; for example, the hypernasality of Midwesterners is typically found in the speech of their milieu. Hyponasality is most frequently due to a blockage of the nasal cavity, although it may be found in some substandard provincialisms too.

There is probably no closer relationship between the physician and the speech pathologist than in the treatment of cleft palate patients. There are many instances in which the diagnosis and treatment of these patients are the joint undertaking of a "cleft palate board," which includes representatives of all the specialties concerned with the patient's treatment. Consider the case of the patient with a short velum—he might benefit from surgery, prosthodontia, and/or speech habilitation. Which specialist could evolve as adequate an opinion as the three combined?

Articulation involves the movement of the oral structures to produce vowels and consonants. Defective articulation includes substituting one sound for another, such as saying "thin" for "sin"; omitting a sound, such as saying "in" for "sin"; distorting a sound, such as saying a "mushy s" by emitting the sound over the lateral edges of the tongue; and adding a sound, such as saying "tsin" for "sin." This may be due to a psychogenic problem, such as the child who regresses to "baby talk" when a younger sibling is born; a problem of inadequate function, such as a Frenchman who says "zees" for "this"; and a physiogenic problem, such as a child who cannot articulate the "s" sound after he loses his deciduous teeth.

Perhaps the most frequent problem encountered by physicians involving these patients is "tongue-tie." While very few children have an overdeveloped frenum which contributes to their articulation problems, many parents feel that this is virtually the only cause of articulation problems. Consider the frantic father who insisted that his child could not say the "k" sound because "this kid is tongue-tied"; the "k" sound can be articulated quite readily without using the parts of the tongue immobilized by an overdeveloped frenum.

Cerebration involves the functioning of the neurologic hierarchy which governs communication. The principal speech and language problems due to disorders of cerebration are agnosia, aphasia, and apraxia. A patient with these problems should be referred to a speech pathologist as early as possible. Treatment should begin as soon as the active phases of the problem subside and the patient's recovery permits. Waiting for the completion of the patient's spontaneous recovery often adversely influences the patient's motivation for speech and language rehabilitation and wastes valuable time which could be devoted to the patient's recovery. The physician should indicate to the speech pathologist any restrictions of the patient's activities which are an important part of the patient's treatment. Consider the cardiac patient with severely restricted activity. The speech pathologist may inadvertently be responsible for the patient's relapse if unaware of these limitations.

Fluency problems. In addition to the speech pathologies already indicated, physicians see many patients who stutter. Research indicates that the child who stutters develops speech in essentially the same manner as his peers but that his "stuttering" is first observed about two years after he says his first word. So far as is known, the speech initially identified as "stuttering" is not unlike that of normal children; this leads many speech pathologists to feel that stuttering is diagnosogenic and that normal nonfluency is judged to be abnormal. The "stutterer" accepts this judgment and reacts to his nonfluency in an increasingly fearful manner. The growth of this phobic reaction may lead to the fixing of a symptom-complex and its elaboration into an intricate set of ritualistic reactions to all repetitions, prolongations, and hesitations. A child who is beginning to stutter cannot be referred to a speech pathologist too soon; as in the case of cancer, early referrals simplify the problems of treatment and usually result in a brighter prognosis.

Of course, there are other kinds of repetitions, prolongations, and hesitations; in addition to those which are normal there are emotional blockages of speech and the spasmophemia seen in patients following organic brain lesions. These problems are also treated by the speech pathologist but are not to be confused with stuttering.

The most difficult stuttering to diagnose is seen in patients who "will do anything rather than stutter." Consider the soldier who was referred to a psychiatrist because he often "said things that didn't make sense." After his psychiatric interview he was referred to an audiologist for a hearing evaluation. The audiologist referred him to a speech pathologist, who recognized that the patient's incoherent speech was the ritualistic reaction this patient used to conceal his stuttering. The patient would rather be considered "crazy," "stupid," or deaf than admit that he stuttered.

Secondary speech pathologies. Many medical and dental problems may involve secondary speech pathologies. These include neuropathologies, such as anterior poliomyelitis and cerebral palsy; reconstructive surgery, such as cleft lip and palate; mutilating surgery, such as cancer of the mouth and larynx; dental surgery, such as the extraction of the upper central incisors; intellectual deviations, such as the echolalia of Mongolian imbeciles; social-emotional deviations, such as psychogenic hoarseness; and defective hearing, such as the inadequate voice of a patient with a conductive hearing loss.

Each of these problems may involve the correlation of services of the physician and the speech pathologist. In some cases the physician's work is incomplete until the speech pathologist helps the patient achieve normal communication. Consider the patient with a cleft palate or a laryngectomy. The finest surgical result is of little help to the patient until he has intelligible speech.

Referring a patient to a speech pathologist. If a physician wishes to locate competent speech pathologists he may contact the American Speech and Hearing Association, 1001 Connecticut Avenue, N.W., Washington 6, D. C. and request the names of members certified as to clinical competency. A holder of the Advanced Clinical Certificate in Speech "has demonstrated ability to conduct clinics, train others in the arts and skills of the profession, and is a fully trained professional worker."* A holder of the Basic Clinical Certificate in Speech "is capable of performing general clinical duties under supervision and guidance."* A patient is assured of ethical treatment when he is referred to a member of the American Speech and Hearing Association.

The speech pathologist relies on a referring physician to indicate if there is any physical problem which might influence the patient's treatment. He should know the nature and extent of the problem for which the patient is referred as well as what is expected of him. The course of treatment anticipated by the physician, any unusual circumstances influencing diagnosis and treatment, and the records and reports desired should be indicated as a part of the referral. For example, in the case of a patient hospitalized for cancer of the larynx the speech pathologist should know that the patient has a localized lesion which will necessitate surgical removal of the larynx. The patient should have a preoperative orientation to alaryngeal voice as well as postoperative treatment. The patient's wife and two adult sons are interested in conferring with the speech pathologist concerning the patient's treatment. Two years previous to this referral the patient was retired from his job in a steel mill with a noise-induced hearing loss; he tried to wear a hearing aid but could not tolerate "all the noises that thing makes." All of this information is obviously important to the speech pathologist; his ignorance of any of these facts might seriously influence the success of his treatment.

The speech pathologist may be an important resource for patients with communication problems. His usefulness to a patient often depends on thorough referrals. Improved communication between physicians and speech pathologists should materially benefit patients with communication problems.

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* From the 1961 Directory of the American Speech and Hearing Association, page vii.

Recent Concepts of Pulmonary Hyaline Membrane Disease

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HYALINE MEMBRANE DISEASE is a condition limited to the newborn period and as such might have only academic interest for members of specialties other than pediatrics. However, it presents an interesting problem in pathologic physiology, and various theories of its causation deserve brief review. The Bethesda Naval Hospital had five deaths from hyaline membrane disease in 1959 and 14 in 1960. The challenging thing about these deaths is that the babies were otherwise normal; if they could have been pulled through their neonatal respiratory distress there would have been no residual damage and they would have had a normal life expectancy.

Here, then, is a disease of unknown cause, occurring only in the first few days of life, which is a significant killer in the nursery. The literature is crowded with work on the pathogenesis of hyaline membrane disease. There are abundant theories and data, but on none is there general agreement and none leads to successful treatment.[1] The confusion was epitomized at the 1959 International Congress of Pediatrics in Montreal; after two days of discussion the participants could not agree that the entity constituted a distinct disease, nor could they agree on the name "hyaline membrane disease" but preferred the noncommittal "respiratory distress syndrome."

Although we do not know the cause, many believe that there is a distinct respiratory distress syndrome which can be reliably diagnosed in life. First, there is a predisposed group; almost all the cases occur in prematures, children born by cesarean section, and children of diabetic mothers. Second, there is a characteristic time course of the disease; the child often breathes fairly well at first, then develops progressive dyspnea, tachypnea, cyanosis, grunting, and intercostal retraction. The symptoms reach their height at about 24 hours of age, and the child either goes on to death from anoxia and respiratory collapse within 48 hours of birth or gradually recovers over the next several days. Auscultation of the chest is not characteristic but may reveal a few rales and rhonchi, scattered diffusely. Roentgenograms of the chest reveal a fine, reticulogranular or ground-glass haziness uniformly involving both lung fields. Pathologic examination of the lungs in those who die reveals heavy, soggy tissue which sinks in water and which is noncompliant, expanding with difficulty. Microscopic examination reveals the eosinophilic hyaline membrane lining the alveoli and plugging bronchioles. There is general congestion, as well as patchy areas of atelectasis. Clearly, the tugging respirations are the result of noncompliant lungs, and anoxia results from poor respiratory exchange.

A listing of the theories of causation is sufficient to prove that no one of them fully explains the condition. These include left heart failure, anoxia, oxygen toxicity, deficient fibrinolysin, deficiency of a pulmonary surface active agent, acidosis, obstetrical factors, deficient vascular tone, necrosis of alveolar cells, and amniotic fluid aspiration. Each of these theories has its distinguished proponents, and several of the theories may explain an isolated aspect of the condition. In the words of Dr. M. E. Avery[2] of Johns Hopkins, "We probably are looking at a jigsaw puzzle which has some of the pieces missing, and in which some of the pieces that we have are wrong."

One of the most popular theories is that which traces the parallel between the hyaline membrane and pulmonary edema.[3] With expansion of the lungs the pulmonary resistance decreases to one-eighth that of fetal life, while the peripheral vascular resistance increases about threefold. This causes a reversal of flow in the ductus arteriosus and decreases the work of the right heart while increasing the work of the left. It has been found that babies with hyaline membrane disease tend to have a large ductus which remains open, flooding the lungs with extra blood. Under these circumstances, transudation of fluid into the alveolar spaces might occur. The fluid in turn would make the lungs heavy and noncompliant, retard respiratory exchange, and finally clot to form the hyaline membrane. Cardiomegaly of some degree has been reported in babies with the respiratory distress syndrome.

Against this interpretation is the fact that ordinary pulmonary edema fluid does not clot. Fibrinogen is a large globulin which does not ordinarily pass into the edema fluid. Edema fluid can be resorbed into the circulation within hours when conditions change, but days are required for the resolution of the coagulated hyaline membranes. Finally, catheterization of the left heart in distressed infants fails to reveal elevated pressures. Adults die with heart failure but not with hyaline membranes.[3]

Blood pressure and peripheral vascular resistance are decreased in distressed babies, leading some authors to postulate decreased vascular tone as a factor in the leaky pulmonary capillaries.[4] According to this view the dilated pulmonary capillaries, because of their increased surface area, become relatively incompetent and hence leak large molecules into the alveolar spaces. This is in accord with the observation that section of the vagus nerve in experimental animals can lead to the formation of a hyaline membrane.

An entirely different theory of causation, advanced by Lieberman,[5] involves a deficiency of fibrinolysin in the hyaline babies. Astrup[6] has suggested that a dynamic equilibrium exists within the blood vessels between coagulation and clot resorption. The continuing activity of fibrinolysin is needed to maintain the fluidity of the blood. Lieberman analyzed lung homogenates from distressed babies and controls and found absent fibrinolysin activity in the lungs of babies dying from hyaline membrane disease. He postulated that some transudation of fibrinogen occurs in all newborns but that in distressed babies the clot is not resorbed because of a congenital fibrinolysin deficiency. The correlation in Lieberman's series was not perfect, however. Some babies with the disease had fibrinolysin and some without the disease had none. Thus, a fibrinolysin defect seems unlikely as the sole causative factor.

A variety of agents can induce hyaline-like membranes in experimental animals. These include high oxygen tension over a long period of time, carbon dioxide poisoning, injection of meconium and amniotic fluid into the trachea, and large doses of X-ray (as for tumor therapy over the chest in humans).[1] The conditions under which oxygen is active do not seem physiologic (6 days in 95 per cent), and studies at the Bethesda Naval Hospital and at Johns Hopkins Hospital fail to show increased incidence of hyaline membrane disease during years when high oxygen was habitually used for prematures. What these agents seem to have in common is nonspecific sublethal injury to the pulmonary capillaries which causes them to become leaky.

One physiologic source of injury that might render pulmonary capillaries leaky is anoxia. James[7] has shown that cord oxygen saturations are low in all prematures but particularly in those who later develop hyaline membrane disease. Children with low Apgar scores, that is to say, those with birth asphyxia, have a distinctly higher incidence of the disease.

Sutherland[8] has shown that hyaline membrane babies have peripheral edema without an increase in weight compared with appropriate controls. He takes this as evidence that the edema is caused by leaking of intracellular fluid into the extracellular space, rather than fluid and salt retention. This contention is supported by the finding of high serum potassium in distressed babies, but electrocardiographic changes indicate low intracellular potassium.

An entirely different theory of causation has been advanced by Avery and Mead.[9] They found in homogeneates of normal newborn lungs a powerful detergent-like agent which is missing from the lungs of distressed prematures. They postulated that the surface active agent is necessary to reduce the tendency of the lungs to collapse by the surface tension from their enormous area at the end of expiration. The lack of this surfactant in distressed babies makes the work of respiration greater and explains the patchy areas of atelectasis found in the lungs of those who die. The most important fact not explained by this theory is the time course of the disease, which starts insidiously and does not reach its full intensity for many hours, although the detergent lack must be present from birth.

Scrutiny of obstetrical factors fails to reveal a decisive answer. Babies born by cesarean section run an increased risk of hyaline membrane disease, but apparently only if the section is done for fetal indications, such as fetal distress, abruptio, praevia, etc.[10] This would lend credence to the idea that anoxia is important. However, there remains the occasional baby with no evidence of birth asphyxia who nevertheless develops classical respirational distress syndrome.

Finally, acidosis seems to play a role in the disease. James[7] has shown from cord bloods that babies who later develop distress are extremely acidotic at birth. Whether this is secondary to anoxia has not been demonstrated. Regardless of its cause, Reardon[11] thinks that acidosis handicaps the baby's metabolism and decreases his ability to withstand the disease. On this basis, as a nonspecific supportive measure, Usher[12] in Montreal has treated distressed babies with intravenous glucose and bicarbonate from the first few hours of life. He is enthusiastic about his results, which promise the first real therapeutic hope in this disease. However, an adequate controlled series has yet to be studied.

Except for the above-mentioned fluid treatment, babies with hyaline membrane disease have lived or died according to their natural endowments while physicians have stood helplessly by. The standard treatment of oxygen, humidity, and prophylactic antibiotics has been shown to be of little help. Trials of digitalis, detergent aerosols, and anticoagulants, logical though they seem, have been ineffective. We are driven to keep studying this baffling disease, because we feel intuitively that if the condition were only better understood we could save these babies who, after the first week of life, are completely normal.

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Trigger Finger in Children Involving Digits Other Than the Thumb

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STENOSING TENOVAGINITIS or trigger finger in children involving digits other than the thumb is a relatively rare entity.[1-4] Only five reports were located in the English Literature.[1, 2, 5, 6, 7] The foreign literature revealed an additional 12 cases involving 14 fingers.[8-13] In one instance the lesion was found to involve the flexor mechanism at a level other than at the metacarpophalangeal joint.

Notta[14] in 1850 was the first to describe trigger finger. He reported four cases in adults with involvement of various fingers including the thumb. He reasoned that a pseudomembrane formed on the surface of the flexor tendon forming a "nodosity," which, as it passed under the "fibrous arcade" at the level of the metacarpophalangeal joint, resulted in "an inhibition." He proposed a subcutaneous incision of the "fibrous band" but did not have an opportunity to perform the surgical procedure. He did, however, perform the procedure several times on cadavers and stated that it was "easily accomplished."

In 1875 Berger[8] reported his observations of five cases including one patient 5½ years old. This particular case was presented at a medical society meeting, but details of the case were not included in his article.

The first description of trigger finger in a child was made by Leisrink in 1884.[10] A nodule was palpable in the patient's palm at the level of the metacarpophalangeal joint. The child was treated surgically, and the nodule, which involved the flexor profundus tendon of the middle finger, was removed.

At the end of deQuervain's article[15] on chronic tendovaginitis in 1895 the author suggested total or partial removal of the fibrous tendon sheath as a rational form of treatment for trigger finger.

An excellent review of the literature on the subject of trigger finger was published by Poulsen[12] in 1911. Five of the reported cases were in children with involvement of fingers other than the thumb. In one of these cases the level of involvement was proximal to the proximal interphalangeal joint. Poulsen noted that this location, although unusual, had been seen in several adults. His case was the only one found in the literature in which the lesion was located at a level other than the metacarpophalangeal joint.

No satisfactory etiologic explanation for trigger fingers has been found, although Lipscomb[16] thought that in many instances the lesions were probably of congenital origin. It is generally believed that the first step in the production of a trigger finger is the development of a constriction in the tendon sheath. This is followed by tendon involvement resulting in an uneven surface with subsequent nodule formation. This combination of a tendon nodule and sheath constriction produces a loss of smooth tendon gliding action resulting in a sudden block as the finger is extended. Additional force may result in a sudden release of the block as the nodule slips by the constriction in the sheath. Complete blocking has been known to occur. Occasionally the sudden block is found on flexion of the finger from the extended position. The site of the block is most often at the level of the metacarpophalangeal joint but it may occur just proximal to the proximal interphalangeal joint.

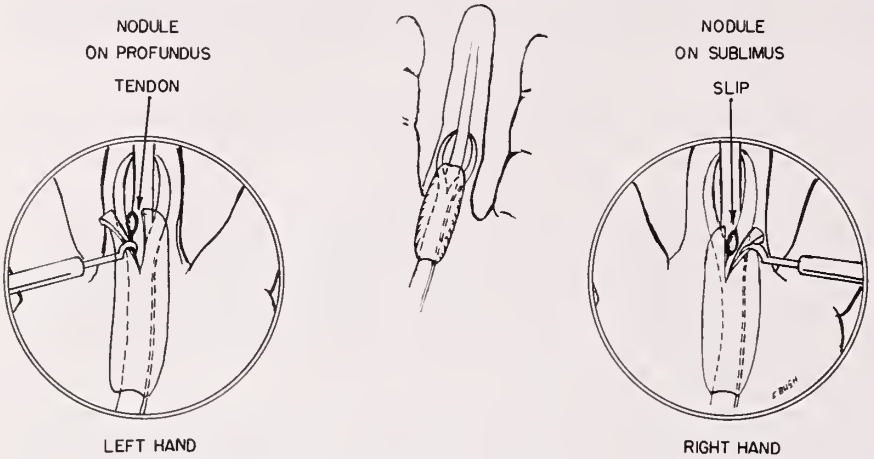

Fig. 1. Findings at operation.

The microscopic changes in both the nodule of the tendon and the constriction of the sheath in cases of trigger finger have been described and discussed by Poulsen,[12] Hauck,[17] and most recently by Fahey.[1] Briefly, these changes consist of degenerative changes and fibrous tissue proliferation in the tendon nodule and degenerative changes and synovial tissue proliferation in the constricted portion of the tendon sheath.

One or more of the following physical findings are usually present and are of help in making the diagnosis of trigger finger:

1. Snapping of the finger on flexion and/or extension.
2. Locking of the finger in flexion.
3. A palpable nodule in the flexor tendon of the finger usually at the level of the metacarpophalangeal joint.
4. Tenderness or pain on palpation of the nodule and on forced flexion or extension of the locked finger.

Other conditions that may simulate trigger finger in both adults and children are congenital contracture of the finger and ganglion of the flexor tendon sheath. Bunnell[5] has described other traumatic lesions that may simulate a trigger finger in adults. These lesions have not been reported as occurring in children. They are:

1. Rupture of one or part of a slip of the sublimus tendon.
2. "Button hole" separation of the extensor tendon with each movement of the proximal interphalangeal joint.
3. Flexor tendons slipping over each other in the forearm.
4. Long extensor tendon slipping on and off the proximal interphalangeal joint.

The use of splints and injections has been evaluated as conservative management, but as a general rule the treatment for trigger finger is surgical. Either general or local anesthesia may be used. The use of a tourniquet is favored by most surgeons. The skin incision most favored is parallel to the distal palmar crease for lesions at the level of the metacarpophalangeal joint and midlateral to the finger for the more distal lesions. The usual care must be taken during the procedure to avoid damage to the volar digital neurovascular bundle. It is usually sufficient to incise locally only the constricted portion of the tendon sheath. When this is adequately performed there will be a return of the smooth tendon gliding mechanism. Only the skin requires suturing. Immobilization is usually unnecessary.

Report of Case

S. B., a 9-month-old white boy, was admitted to the hospital for surgical correction of bilateral trigger fingers involving the middle fingers. Since birth the child had been noted to hold both middle fingers in a flexed position of 90 degrees at the proximal interphalangeal joints. Whenever the fingers were passively extended a "snap" could be heard and felt over the flexor aspect of the proximal phalanx just proximal to the proximal interphalangeal joint.

Under general anesthesia and tourniquet control both middle fingers were explored through midlateral skin incisions along the proximal phalanx. When the distal margins of the fibro-osseous tunnels were exposed they were found to be constricted. A nodule was present in the profundus tendon on the left and in the medial slip of the sublimus tendon on the right. A semidiagrammatic illustration of the operative findings is shown in figure 1. The constricted margin of the tunnel was incised proximally for a distance of approximately 3 to 5 mm. permitting a smooth tendon gliding mechanism. The skin was closed with interrupted sutures, and sterile dressings were applied to each finger. The postoperative course was uneventful, and both incisions healed per primam.

Short-term follow-up examination revealed complete flexion and extension of the involved fingers without snapping or locking.

SUMMARY

Trigger finger in children involving digits other than the thumb is a relatively rare entity. The lesion usually consists of a constriction of the tendon sheath with an associated nodule in the flexor tendon. It is usually located at the level of the metacarpophalangeal joint.

Treatment is usually surgical with incision of the constricted portion of the sheath restoring the normal smooth tendon gliding mechanism.

An unusual case with bilateral involvement of the flexor mechanism at a level other than the level of the metacarpophalangeal joint has been presented.

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Common Viral Infections of the Eye

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THE IMPORTANCE OF VIRAL INFECTIONS of the eye has increased sharply in the past two decades. This is partly of relative importance because of the marked decline in the number and severity of bacterial infections resulting from the widespread use of antibiotics. There has also been an absolute increase in importance of viral infections during this time, in that diseases have been encountered which were previously unknown in this country and at least one disease has apparently increased in severity during this time. Epidemic keratoconjunctivitis was unknown in this country prior to 1941 but became a major problem at this time with an epidemic of 25,000 cases.[1] The number of cases of herpes simplex keratitis has increased greatly since World War II, and bilateral cases of this disease have been noted only since then.[2]

Almost all of the viral diseases affect the eye, many to a mild degree and several causing serious ocular problems, both visual and socioeconomic. We have chosen seven of the more important ones for this discussion.

Herpes simplex keratitis. This is the most serious ocular viral disease in this country today, because it is the most common cause of corneal scarring of infectious nature.[3] It is characterized by a keratoconjunctivitis, frequently showing a dendritic type of corneal ulcer when stained with fluorescin, which usually tends to heal, often leaving residual scarring and vascularization of the cornea. It is prone to recurrences, which are sometimes spontaneous and sometimes related to precipitating factors such as fever and trauma. It is this recurrence of activity of the disease which is so devastating to the cornea, for each recurrence leaves further scarring and vascularization and therefore further visual loss. The recurrences are unrelated to the serum antibody levels. Basic research in this disease process has thus far failed to answer the questions of the uniqueness of this virus or the mode of recurrence of the disease. An experimental situation concerned with predictable production of recurrence of the disease has recently been described, the Arthus's phenomenon being used as a stimulus to reactivation of the disease in the rabbit cornea.[4] This may offer a tool for further study of the reactivation phenomenon.

The diagnosis of this disease is aided by the history of repeated attacks of keratitis, a demonstration of, or history of a dendritic figure on the cornea, and the presence of corneal anesthesia. The virus can easily be grown in eggs or tissue culture in the laboratory. Antibody levels are of little value in the diagnosis.

The treatment of the disease has been generally unsatisfactory. The virus does not respond to antibiotics. The usual therapeutic approach has been the removal of the corneal epithelium and therefore the virus by mechanical, chemical, or enzymatic means. A frequent method is cauterization of the cornea with ether or iodine and removal of the epithelium. Recently Stow and Jenkins[5] have reported good results with the use of alpha-chymotrypsin. A rather successful method of removal of the diseased tissue has been split-thickness corneal graft. The marked deleterious effect of corticosteroids on this disease has been well documented.

Trachoma is a disease of antiquity and remains the most common important ocular disease in the world. About 20 per cent of the world population have this disease, including 90 per cent of the population of certain Middle East areas and 200,000,000 people of China.[2] A major breakthrough in the study of this disease occurred in 1957 when T'ang et al[6] in Peking, China isolated the causal agent of this disease in the yolk sac of eggs. It has since been characterized as a member of the psittacosis-lymphogranuloma group of viruses. It is sensitive to many of the sulfonamides and antibiotics but is difficult to treat in many of the less developed areas because of the length of time required for treatment (6 weeks). There is no "one shot" treatment available. The disease is present in the United States but in significant numbers only in the Indians, predominately in the Southwest.

The disease is characterized by a follicular conjunctivitis, with a usual acute onset in adults and a chronic onset in children. The follicles tend to be more numerous in the superior tarsal conjunctiva. The diagnostic signs of the disease, which appear later, are follicles and pannus formation on the superior limbus. The limbal follicles then heal to form scars known as Herbert's pits. The conjunctival lesions also heal with scarring, causing some of the most serious sequelae of the disease, such as trichiasis and symblepharon. These cause aggravation of the corneal lesions by exposure and trauma. Reinfections are common in the areas of the world where the disease is prevalent, and the complications usually come on over a period of years.

The treatment usually results in cure if the patient can take the medication for the period specified. The most recent one used by Thygeson is two weeks of systemic sulfonamide along with six weeks of topical tetracycline in oil. This is stated to cure over 90 per cent of the cases.[7]

Inclusion conjunctivitis is caused by a virus which is indistinguishable from the trachoma virus in the laboratory. It is differentiated easily on clinical grounds, however, in that it never causes corneal involvement. It does, however, produce a follicular conjunctivitis and is susceptible to many antibiotics. This is known as inclusion blennorrhea of the newborn, which has become rather uncommon, presumably because of the eradication of the venereal inclusion cervicitis and urethritis with antibiotics. When it occurs in adults it also causes an acute follicular conjunctivitis, short-lived and never leaving permanent scarring. It was formerly almost synonymous with "swimming pool conjunctivitis," but more recently the swimming pool lesion has been more often related to the adenovirus.[8] Inclusion conjunctivitis is rarely present in those areas of the world where trachoma is prevalent.

Pharyngoconjunctival fever is a common disease which has been extensively studied in the Washington, D. C. area.[9] It is an acute illness consisting of follicular conjunctivitis, pharyngitis, and fever. It occurs predominately in children but can affect all ages and appears frequently in association with swimming pools. The naturally occurring cases are usually caused by the type 3 adenovirus, although several adenoviruses have been used to produce the disease experimentally.[8] The disease is usually mild, lasts from several days to three weeks, and clears completely without sequelae. The diagnosis can be made by the clinical picture, isolation of the virus in tissue culture, and by a specific antibody rise in acute and convalescent serum. There is no specific treatment. Reports of protection with the use of a vaccine have been favorable.[10]

Epidemic keratoconjunctivitis or EKC is an acute infectious disease of the cornea and conjunctiva commonly known as pink eye, shipyard conjunctivitis, or Hawaiian pink eye. Epidemics of this disease have been reported in other countries since 1920,[11] and an epidemic occurred for the first time in this country in 1941.[12] In 1955 Jawetz et al[13] isolated adenovirus type 8 from a sailor returning from the Orient with the clinical findings typical of EKC. Since that time there have been many reports incriminating adenovirus type 8 as the etiologic agent of EKC. Mitsui et al[14] provided some of the first corroborating evidence with the production of EKC by inoculating five human volunteers with adenovirus type 8. All but one volunteer developed findings compatible with EKC, and the serum of that case had a significant specific antibody titer to adenovirus type 8. The four who contracted the disease developed a significant rise in neutralizing antibody titer to adenovirus type 8.[15]

Infected humans are the common source of the disease when it occurs in epidemic proportions. In Japan two sizable epidemics of EKC were known to have been transmitted via swimming pools.[16]

The onset of the disease following an incubation period of seven to nine days is often sudden with a foreign body sensation in one eye and marked lacrimation. There is hyperemia and swelling of the palpebral conjunctiva and a glassy edema as in follicular conjunctivitis. Within 24 hours the bulbar conjunctiva is involved as well and there may be lid edema and hyperemia of the adjacent skin. The second eye frequently becomes involved to a lesser degree. In some adult cases and commonly in children a pseudomembrane develops on the palpebral conjunctiva. If the membrane is removed small bleeding points are produced. Conjunctival scrapings are bacteria-free, and the cell-type is predominately lymphocytic. Preauricular adenopathy may be an early manifestation, and sometimes there is an associated submental and cervical adenopathy. In children systemic manifestations are common, while in adults they are conspicuously absent. Children, on the other hand, do not tend to develop the typical corneal opacities which occur in 50 to 90 per cent of adult cases.[16] These opacities are subepithelial and do not stain with fluorescein. They are large enough to be seen grossly on the cornea. They usually disappear completely within a few months but may remain to permanently impair visual acuity.

Mitsui et al[16] in one of their most recent reports have provided evidence that the incapacitating effects of this disease, even though of relatively short duration, may be eliminated in the future by a vaccine which is capable of producing protective antibody titers to adenovirus type 8.

Herpes zoster ophthalmicus is a major eye disease due to unilateral involvement of the ophthalmic division of the fifth nerve by the virus of herpes zoster. At present, varicella and herpes zoster are believed to be different clinical entities caused by a single virus. Chickenpox results from the initial attack, and zoster is a secondary attack on a partially immunized person.[7] Recurrence of varicella or herpes zoster does not happen, but zoster may follow an attack of varicella.[7]

Clinically, the disease rarely occurs before 20 years of age, is unilateral and usually self-limited but may remain active for a period of many years. At the onset there is usually moderate to severe neuralgia, followed by the appearance of vesicles in the areas supplied by the affected sensory nerves. The distribution of the lesions varies according to the extent of the involvement. The frontal branch is the most commonly affected and usually will not cause any ocular involvement. When the nasociliary branch is affected as manifested by vesicles over the tip and alae of the nose, the cornea and iris usually become involved. The eyes usually show ciliary injection with superficial corneal infiltrates and iridocyclitis, which may vary in severity. Other complications may occur, including secondary glaucoma, scleritis, ocular palsies, optic neuritis, and retinal detachments. Several cases have been described as being complicated by contralateral hemiplegia following several weeks after the acute attack.[17] Any part of the above picture may predominate, but secondary glaucoma and corneal opacity have usually been the most devastating complications. The iridocyclitis and corneal infiltrates may recur or progress for months or even years after the acute process.

In general there is no specific treatment for herpes zoster. The disease is self-limited. Systemic and topical steroids may be used as an effective means for reduction of pain and ocular inflammation.[18] These agents are not curative but probably block the response of tissues to the viral agent. Systemic antibiotics should be used to control secondary infection of the vesicles and may be used topically in conjunction with local steroids. When steroids are used the extra risk of fungus infections must be kept in mind. Hyperimmune globulin when given early in the disease may be useful in reducing the frequency of ocular complications.[7] If not available, gamma globulin may be given.[7] Recurrence of ocular complications is usually treated with systemic and topical steroids. Some authors[19] have found striking improvement after repeated vaccination with vaccinia virus.

From the point of view of the general practitioner the diagnosis of herpes zoster ophthalmicus can be made usually on clinical grounds alone because of the characteristic distribution of the skin vesicles. Of importance is early recognition of nasociliary nerve and/or ocular involvement for which the patient should be referred to an ophthalmologist for proper ocular evaluation and therapy.

Ocular molluscum contagiosum is caused by a virus producing acidophilic, cytoplasmic inclusion bodies.[20] The usual clinical picture is one of chronic unilateral conjunctivitis refractory to routine treatment. Typically the molluscum contagiosum lesion is a raised tumor elevation of a yellow-pink or brown color. It usually measures about 2 mm. in diameter and has a shiny appearance with an umbilicated center. The lesions tend to appear in clusters due to auto-inoculation, although in the region of the eye solitary lesions are not uncommon.[20] The moderate follicular conjunctivitis, which at times may be papillary, is due to a toxic reaction to desquamated virus material.[20] Usually there is a watery discharge and frequently a superficial punctate keratitis. A pannus very similar to that of trachoma may be present as a late manifestation. Laboratory diagnosis is obtained by biopsy of a nodule or smear of its contents, which will show the typical molluscum bodies. These are circular or pear-shaped hyaline bodies which represent epithelial cells in which inclusion bodies have displaced the protoplasmic remains of the cell toward one side. The treatment is local excision of the nodule, or the contents of the lesions may be expressed and the base cauterized with 5 per cent tincture of iodine or trichloroacetic acid.

SUMMARY

Viral infections of the eye are increasing in importance both from a visual impairment and a socioeconomic standpoint. In the past two decades there has been a relative increase in viral infections due to the decline in bacterial disease. There has also been an absolute increase in the number and severity of some of the ocular viral infections. We have discussed seven of the more common diseases, including their etiology, diagnosis and treatment.

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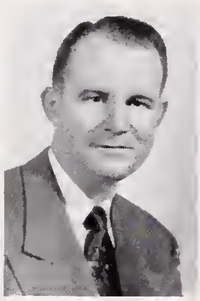
(Continued on page 128)

PRESIDENT'S PAGE

RECRUITING COMMITTEE MEMBERS



One of the first duties of the President of the Medical Society immediately before taking office is the appointment of committees. I am sure this is a far more difficult task than most members realize.

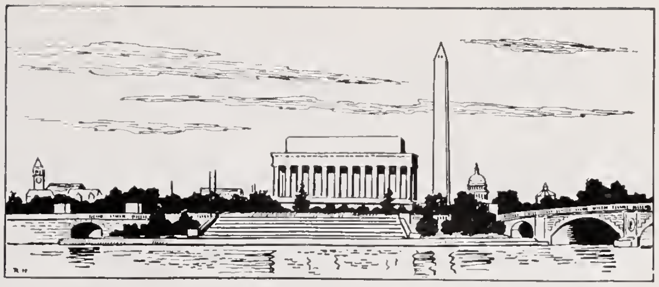
First of all, there are 38 committees to which approximately 400 physicians must be appointed. Obviously, a President, even though he has practiced in Washington for a number of years, cannot know a sufficient number of members to make all of the necessary appointments without advice, which he necessarily seeks from physicians whom he knows. In addition, he usually canvasses the membership for volunteers. Many who respond are, of course, unknown to him. He has no knowledge of their capabilities or interest in organization work. On the chance that they will have a contribution to make, he appoints them nevertheless. Neither of these methods is completely satisfactory, because I am convinced that real talent for organization work is being overlooked.

It is this that prompted me to suggest to the Executive Board at a recent meeting that when applicants for Active membership are interviewed by the Board of Credentials, they be asked about their interest in doing committee work, and also the type of activity in the organization which holds the greatest interest for them. Seeing and hearing the potential worker have, in my opinion, real advantages.

The Executive Board, I am glad to say, was favorably impressed, and I feel that from now on we will build a reservoir of organization talent within our Society which has not been available heretofore.

It is vital that there be an infusion of new blood in committees if our Society is to go forward, and I sincerely hope that the simple device which I have suggested will contribute to this end.

J Spencer Dryden



EDITORIALS

"Let's Give the Hospital Back to the Patients!"

Historically derived, the hospital originally served as a refuge for weary and disabled travelers. Later, its functions in the care of the ill and handicapped received their greatest impetus in the Christian era, but even the most visionary of earlier generations could not have pictured the hospital of the twentieth century as we know it. Almost inevitably, in the mechanization and sophistication of this complex organization that we term the modern hospital there has arisen a certain impersonality that threatens its greatest service to humanity. Hence, when one of my associates, Dr. J. Herbert Smith, recently gave vent to his feelings with the expression, "Let's give the hospital back to the patients!" I realized that he spoke from the heart. Upon reflection, many circumstances serve to reëmphasize the growing concern of many friends of medicine in this significant matter.

With illness, not infrequently one encounters a new or a renewed sense of dependence upon the part of the patient. Pain is a great leveler. Varying degrees of stoicism may modify the given individual's reaction to this most common complaint. The appearance of symptoms foreign to the common experience creates a sense of doubt and insecurity in the mind of the patient, which finds augmentation when the patient is left to his own devices to resolve the intangible manifestations of disease. At night the shadows magnify the psychologic hurdles and these questions are multiplied. Singularly, illness enhances both the strengths and weaknesses of a given patient. In general, however, dependence upon the physician or the medical attendant is accentuated, and to this end the dislocation from normal daily activity and human interchange lends added weight.

Transported to the modern hospital for stay and care, the patient meets with the receptionist and members of the staff. Undoubtedly, the most important link in this transition is the first one who greets the patient upon entrance to the hospital. The reaction at this critical moment may determine a ready acceptance or a resistance amounting to actual hostility to his surroundings. Hence, it is extremely important that easy rapport be established at this point. The heart of the hospital will be adjudged both by the patient and the family from the human warmth of the admitting office and the sick room (or ward). No pains should be spared in the selection and indoctrination of staff members who will meet these simple but vital functions. In this strange atmosphere, the patient will be prepared for bed, and all personal belongings will be checked for safekeeping. From the austerity of the common hospital room, some coldness has been removed by warmer, less conventional furniture and softer colored draperies and pastel-tinted paints.

Regardless of these minor concessions in the interest of the patient's comfort, hospital routines

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

have fallen into certain scheduled hours that are entirely foreign to the habits of the patient. For example, the waking at five to six o'clock in the morning for the routine taking of the temperature, pulse and respiration, washing of the hands and face, brushing of the teeth and combing of the hair, presumably sets the schedule for the seven o'clock breakfast. Thereupon, after appropriate baths and bed-making, the floor is in order for the visits of the attending physicians. The luncheon and dinner hours are again set according to a formula that does not consider the patient's accustomed manner of life. In general, the nutriments and drinks that are served with and between meals are designed to meet the dietetic requirements of the given patient; but little advance has been made in affording attractive meals and appropriate portions to the taste of the individual. From personal observation over many years, the acceptance of hospital diets is largely overlooked, if one may judge from the rejections. This circumstance should be a responsibility not only of the dietitian but of the physician and nursing attendants.

To add to the indignities of the patient, the use of the unnatural bedpan and urinal is imposed. The latter may prove a convenience; but little advantage has ever been ascribed to the teetering bedpan, the control of which presupposes certain acrobatic abilities in the user. Indeed, recent studies have established the greatly increased physical effort that is employed in its use as compared with the bedside commode. Notoriously, physicians have paid scant heed to the wastage of time and patience in the waiting rooms of their offices; but it is almost inconceivable that such inefficiency should be tolerated in the X-ray and other special laboratories of a modern hospital. To compound this patent fault, the entire institution and its maximal operation are geared to the 40-hour week with the occasional concession of an added half-day on Saturday. Illness and disability know no moratorium in time. Patients are ill 24 hours a day, 7 days a week, 365 days a year. Of course, emergencies over the weekend are regularly met by cadres of key personnel in all well-run hospitals, but the curves of occupancy, admissions and discharges in the vast majority of the hospitals tell an eloquent tale of ineffectiveness and wastage that is receiving renewed attention in certain quarters.

In a hypercritical vein, Robert Ruark wrote, "You will see signs all over the hospital which read, 'Quiet.' The patients are quiet. But the staff is about as quiet as New Orleans during Mardi Gras. The nurses are all rude, orderlies scream and yell, the swill is better than the food, and the service pure Mills Hotel." Granting the excesses of reportorial license, certain of these points are valid and by the same token ready of correction. The quiet and peace of the sick room should permeate the corridor, nurses' stations and service areas. The several mobile carts and chairs require periodic greasing to minimize irritating squeaks. In many hospitals, plastic or rubber mountings have silenced the clatter of waste baskets and cans; but too frequently anxious patients await the din of garbage collection in hospital courtyards at the break of each day.

As these circumstances are reviewed and our reciprocal responsibilities are brought into focus, it becomes increasingly apparent that many of the details of the hospital care are determined in the primary interest of the staff without due consideration for the comfort and convenience of the parties of the first part, the patients. Obviously, each and every one of these details should be subjected to careful study and evaluation. Where the staff is primarily involved and the patient inconvenienced, they should be modified or corrected. Furthermore, such practices as would lead to the added comfort of patients without serious dislocation of their own care and of the staff activities should be initiated in the interest of the former.

With few notable exceptions, hospitals of whatever order—sectarian, private or governmental—are constructed in the interest of the health of the community from private or tax funds. While members of the medical profession pay their share in these respective sources, there is not justification for the position that the ultimate buildings that constitute the hospital should be our vested interest. By reason of the technical order of our profession and its co-professional supporting staffs, physicians must play a major role in the operation of hospitals; but we should bear in mind that the health of the people and its projection are not an exclusive prerogative of medicine. In the interest of balance and sustaining support, far-sighted physicians have generally encouraged the active participation of public-minded citizens on hospital boards of directors. And this is the natural state of mutual respect that should exist in a democracy.

Resolved to least common denominators, "Medicine exists for the benefit of the afflicted and not the afflicted for the benefit of medicine." With the astounding growth of the modern hospital, new problems and perplexities have arisen. Not the least among these has been an oversight of our primary responsibility to the patient. Quantitatively and qualitatively, this movement has been relative but appreciable. The time is ripe for a careful review of every procedure involving patient care by every member of the hospital staffs throughout the length and breadth of the land. The leading question should be, "How does this procedure or arrangement affect the patient?" Where his human dignity and his physical or psychologic comfort have been sacrificed in the interest of some inconsequential or unproved advantage to the staff, it should be amended without delay. Then and then only will the medical profession and its co-professional supporting cast take their proper positions as servants, not masters, of their patients.

"Let's give the hospital back to the patients!"

William S. Middleton, M.D.
Chief Medical Director,
Veterans Administration

Health Appraisal of Our Nation's Capital

The health problems and programs of the District of Columbia are of particular interest and concern to the practicing physicians of this community. We are all concerned not only with the magnitude of health problems and services, but with their depth and scope, as well as the shifts in emphasis required by changing conditions.

Tuberculosis is now no longer in the ten leading causes of death in the District of Columbia, yet the death rate here is more than twice that for the country as a whole. The death rate in the District has declined, but our rate of improvement must be greatly accelerated. With excellent diagnostic laboratory and treatment facilities available, the venereal disease rates have soared alarmingly. While the reporting of venereal diseases by private physicians has improved slightly each year for the past four years, we will never control this disease until we approach 100 per cent reporting of all cases.

Progress in child health has been great. The variety of services available for prenatal, infant and child care is gratifying. During the past two years we have made slight gains in reducing our infant mortality rate but we still have the second highest rate among the 20 largest cities.

Under a plan approved by the Department of Health, Education, and Welfare, the District of Columbia Departments of Health and Welfare have expanded their health services to residents over 65 years of age and are now receiving Federal funds made available under Public Law 86-778. No additional local money is being spent, as the expanded service is financed by matching Federal funds.

Mental health is undoubtedly the major public health problem in the District of Columbia both from the point of view of cost to the individual and to the community, and also the number of people involved. Care of the mentally ill has improved, and available facilities, although still inadequate, have been greatly increased, but we are still faced with approximately 5,000 residents hospitalized annually at Saint Elizabeths Hospital at the expense of the community. During the past year two major advances were achieved in the mental health program. First, it is now possible to effect a voluntary admission of a patient to Saint Elizabeths 24 hours a day. Previously, this could only be achieved during the regular 40-hour work week. Second, on February 7, 1961, the Commissioners authorized the Department of Public Health to engage the services of certain psychiatrists, who are members of the Washington Psychiatric Society, on a contract basis, to provide home visits to persons who are believed to be in need of emergency psychiatric consultation and who are unable to obtain private care. If, after the first visit, it is determined that the family or individual is one that should be consulting a private physician, he is referred to the Medical Society for the name of a psychiatrist; if immediate hospitalization is indicated, transportation is arranged for admission to either D. C. General Hospital or a private hospital having available psychiatric beds.

Environmental health has come to the attention of the public more particularly in the past year than ever before, with particular reference to radiologic contamination from fallout and air pollution from other sources. The District of Columbia Department of Public Health is maintaining surveillance of the radiologic contamination of our environment by weekly sampling of surface waters and rainfall; drinking water and atmospheric fallout are checked daily. Our test results show well within "safe limits" as measured by present standards. During the past year the District of Columbia participated as one of eight cities in the United States in a Nation-wide network for continuous air monitoring. An air monitoring station was constructed for this purpose at First and L Streets, N.W., and is now in operation. The purpose is to determine exactly the contamination of the air because of its possible effect on the health and welfare of the community and to determine what course of action may be indicated.

Changes among the people residing in the District require different emphases in programs and facilities. While the country as a whole is said to have an aging population, the District by contrast has a young population; the ratio of children to adults is high. These children need more protective health services and adequate family life. Yet the aging portion of the population at the same time necessitates an increase in nursing home and long-term hospitalization facilities.

All these problems, these conditions, are of concern not in themselves but for their effect upon people. Our concern is that those who are ill and in need of care receive it, that the environment is secure, that the community in general is defended against preventable disease and disability, and that the later years are more productive and rewarding.

This requires services and the knowledge of what they are and how to use them. Services sought too late exist to no avail. The challenge to the health professions and laymen alike lies in strengthening and extending preventive services and hence reducing and alleviating the burden of illness and human misery.

The District of Columbia is fortunate indeed in the outstanding diagnostic and treatment facilities which are available to this community for the care and treatment of its residents. However, the programs and facilities available in the fields of prevention and early diagnosis have not kept pace with the treatment facilities; they must be implemented and they require greater community support for the future in order to achieve maximum health for all members of our community.

DANIEL LEO FINUCANE, M.D.
Director of Public Health, District of Columbia

Two-way Radio Service

Ever since December 2, 1940, the date on which the MEDICAL BUREAU began operation, the management of the BUREAU and the Medical Bureau Committee have studied plans to improve service to its subscribers and the public.

The Medical Bureau Committee is presently considering the proposals of several communications and electronics firms to install two-way radio communications for interested BUREAU subscribers at a nominal charge. The Committee has been advised by engineers of these firms that radio-paging systems can be integrated into a two-way radio system or installed independently. With radio-paging equipment, BUREAU operators could reach subscribers throughout the Metropolitan Area instantly. Upon being paged, doctors would communicate with the BUREAU by the two-way radio system.

The proposals submitted for Committee consideration require the installation of base station transmitter equipment in the MEDICAL BUREAU quarters and a two-way radio in the subscriber's automobile on a lease basis. The radio-paging system requires the use of a compact, lightweight receiver which clips on the belt or fits in the physician's pocket. The rental charge for both the two-way radio and the radio-page receiver has not yet been determined.

In order to ascertain how many BUREAU subscribers would be interested in two-way radio communication if it were incorporated in the BUREAU'S day-to-day service, a survey of subscribers was made in October 1961 by the Medical Bureau Committee.

Of the 360 subscribers who responded to the survey, seventy indicated that they wished further information if it was decided to make two-way radio communications available through MEDICAL BUREAU. A considerable number of subscribers to the BUREAU stated they were undecided until more specific information regarding equipment rental charges was made known to them. Two hundred and thirty-nine BUREAU members said they were not interested in the proposal.

The BUREAU management and the Committee are gratified with the response to the canvass. They decided a sufficient number had indicated their interest to warrant pursuing the matter. They will therefore explore a number of proposals other than those already submitted with a view of obtaining the best facilities possible.

LAWRENCE A. ZUPAN
Manager, Medical Bureau

Study of Chronic Myelogenous Leukemia

The coöperation of physicians is requested in a study of chronic myelogenous leukemia being conducted by the Chemotherapy Service of the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Md.

Referrals of patients with chronic myelogenous leukemia are needed, including some treatment refractory patients with high white blood cell counts and platelet counts, for studies of newer chemotherapeutic agents and as a source of white cells and platelets for in vitro and in vivo study. Accepted patients will be hospitalized for approximately 8 to 12 weeks.

Physicians who wish to have their patients considered for the study may write or telephone Dr. Paul P. Carbone, Chemotherapy Service, Medicine Branch, National Cancer Institute, Bethesda 14, Md., telephone: 496-4251.

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

IN & OUT OF FOCUS

By the Observer

"... A Master Plan for Health..."

Recently, when he appeared on the Forum on Medical Care in the Washington Metropolitan Area, sponsored by the Department of Preventive Medicine and Public Health of Howard University College of Medicine, Dr. Daniel L. Finucane, Director of Health, Department of Public Health, gave an impressive recital of the accomplishments of his department in the past year and the needs which have still to be met. To some extent these are summarized by Dr. Finucane in an editorial which appears on page 105 of this issue of the MEDICAL ANNALS.

Dr. Finucane's remarks were especially directed to the subject, "Medical Care for the Indigent and Medically Indigent in Washington, D. C.," and the following excerpts from his address should hold particular interest to many readers of this column.

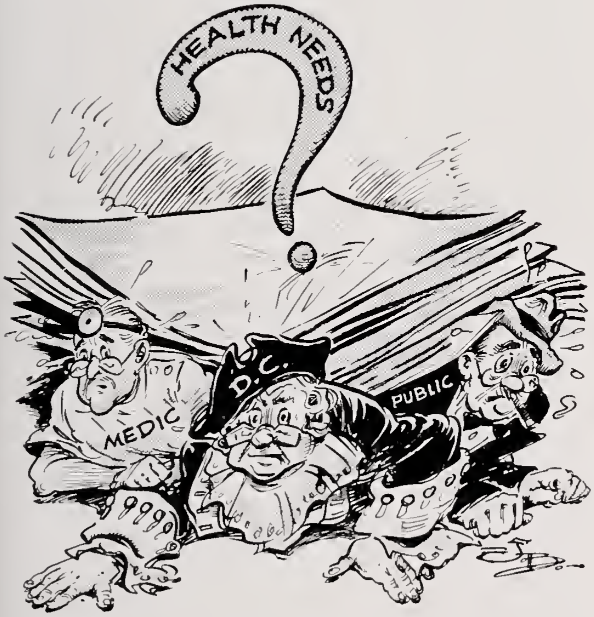
He proposed first of all that the community should take "a hard look at the [medical] services provided to the indigent." Too many people, he said, who are entitled to "full medical care" do not seek it regularly. They do so only when their medical problems become acute or are of an emergency nature.

Dr. Finucane deplored this lack of continuity in their care. "In the long haul," he said, "we will want to emulate the experience of the Health Insurance Plan of Greater New York (HIP) which has been able to demonstrate significantly lower hospital admission rates for a population which utilizes comprehensive group practice." Upon being asked about this statement, Dr. Finucane said he should have elaborated more on this point. What he had in mind was that the experience of HIP might be applied with benefit to the outpatient departments of our Washington hospitals.

> "The present trend toward participation in prepayment medical care plans is encouraging, and current studies indicate that a majority of the District population has enrollment in one or more plans. However, much of the coverage needs to be broadened and extended. It seems to me that we have a special responsibility to those who have themselves made an effort to provide for the eventuality of illness. The extension and supplementation of services to those who have made some contribution of their own should be in such a way as to recognize and reward their desire for independence.
>
> "There are profound differences in a medical care system that is based on the participation of the beneficiaries as compared with one in which the patients have no voice. Perhaps the real challenge is to find a way for every family to receive the health and medical services it requires, and to share in the cost of these services to the limit of their capabilities.

"Within this context I have been disturbed by an exclusion which has been approved by the U. S. Civil Service Commission under the Federal Employees Health Benefits Act of 1959, as revised in November, 1961. Under the Indemnity Benefit Plan, the bulletin specifically states that charges for medical services and supplies provided to persons who have enrolled under this plan will not be paid if '. . . There is no legal obligation to pay, or for which no charge would be made if the individual had no insurance.' The implication of this clause challenges the concept of freedom of choice, and undermines the incentive to be independent.

"A third consideration requires that a master plan be developed for serving the health needs of all citizens of the District. Within such a plan the total health resources of the community, both public and private, should be described, and the extent to which and by whom they are utilized. Health problems need to be identified not only through mortality rates but by measures such as the prevalence of uncorrected sight and hearing disabilities, the number of persons suspected of having diseases who are not brought to diagnosis and treatment, and the proportion of high risk groups which have been screened for particular health hazards.



WEIGHTY PROBLEM

"The community need must be described and resolved for such facilities as half-way houses, for a residential facility for treating disturbed children, for sufficient numbers of acceptable nursing home beds, and for rehabilitation centers.

"The implementation of such a master plan for health will require new and bold approaches. Unless a total community medical and health plan is devised and adopted, the gaps and overlaps in service will continue to take their tragic toll at ever-increasing costs."

Commenting on Dr. Finucane's address, *The Washington Post* editorialized on December 9, 1961: "Dr. Finucane seems to be proposing a greatly expanded system of medical insurance into which virtually every family would be invited, with the premiums scaled where necessary to the family's income and with public funds supplementing private payments.

". . . As medicine becomes increasingly costly, how many American families can bear the burden of prolonged hospitalization? Cancer does not afflict merely the shiftless. We all stand in the shadow of devastatingly expensive disease. Except for the very rich, it is only luck that separates the solvent from the medically indigent.

"Only two weeks ago the District Medical Society chided the American Medical Association for delay in the promotion of expanded health insurance programs. Two out of three Americans are now covered by some sort of health insurance, but many policies are wretchedly inadequate in any major illness. Many cover only hospitalization. Both from the patient's perspective and from the community's, hospitalization is the most expensive of all forms of medical care. Experience in New York has already shown that comprehensive, prepaid group practice can substantially reduce hospital admission rates. This kind of program, covering not merely hospital bills but all medical costs, is the only rational way to pay for good health. Until this community begins to move in the direction Dr. Finucane has pointed, it will continue to suffer the ills he has demonstrated. Any of us could be, tomorrow, a medical indigent."

★

Free Choice Issue

Perhaps more has been written about free choice as it relates to patient-physician relationships than to any other phase of medical practice. A majority of the medical profession insist that the freedom of a patient to select a doctor of his choice is basic if the present standards of practice are to be maintained. Opponents minimize its importance, stating among other things that the patient is not qualified to determine the competence of the physician to whom he goes. Neither, they say, are too many patients concerned about who treats them.

Burton Wolfman, in an article entitled, "Medical Expenses and Choice of Plans: A Case Study," appearing in the *Monthly Labor Review* for November 1961, reports the results of a study whose primary purpose was to determine the type of plans which are most acceptable to trade union members. The study, which was made in 1959, included 200 union members, 100 of whom had chosen the Northern California Kaiser Foundation Health Plan providing full coverage and a similar number who found that Blue Cross-Blue Shield plans best suited them.

As is well known, the Kaiser Plan is a group practice type organization. Medical care provided subscribers includes hospitalization and complete surgical, physicians' and laboratory services, including a full range of specialists' services; physicians' office services, also including services of specialists at $1.00 per visit; and physicians' home visits for $3.50 (day) or $5.00 (night and weekend); full prenatal and postnatal care, including delivery room services for $60.00; and other laboratory and X-ray and diagnostic tests at no additional charge.

The Blue Cross-Blue Shield plan provides hospitalization (in any Blue Cross hospital), full hospital coverage for maternity cases and $70 toward obstetrical fees, full surgical coverage and physicians' services while hospitalized (if a member's income is less than $6,000), and diagnostic laboratory and X-ray services.

The purpose of the study was to determine the views of those participating in these plans as to their preference for comprehensive medical coverage with limited choice of attending physician, or limited coverage with free choice of attending physician.

Results of the investigation were moderately surprising and certainly gratifying to the Blue Cross-Blue Shield organizations. Monthly prepaid premiums are higher for Kaiser families, averaging $109 per year, as compared to $99 for Blue Cross-Blue Shield families. However, the out-of-pocket expenditures by the subscribers to these plans were $255 annually for those participating in the Kaiser Plan as against $312 annually for Blue Cross-Blue Shield participants. Nevertheless, seventy-five per cent of the membership of the union whose members were surveyed had chosen the Blue Cross-Blue Shield plan.

What were the reasons for this preference? The most important single reason given by Blue Cross-Blue Shield families, Mr. Wolfman writes, "was the opportunity of having free choice of their own physician and hospital." A majority of the families in the Kaiser Plan, on the other hand, stated that their choice of plan was determined by the lower cost and the benefits offered.

"Some of these families," Mr. Wolfman observes, "seemed to regard freedom of choice in medical care, like owning a home and a car, as a goal to which they aspired regardless of its economic merits. To be able to afford the opportunity of free choice appeared to be a symbol of economic and social independence—possibly a step upward from their previous circumstances."

There were, of course, those dissatisfied with the Blue Cross-Blue Shield plan. Sixty-seven per cent of the Kaiser Plan families had previously belonged to Blue Cross-Blue Shield and had transferred to the Kaiser Plan. But Kaiser members "seemed to feel compelled to justify their choice and appeared to be defensive about their choice possibly, in part, because Kaiser members are in the minority in the plant" where they are employed.

These findings will come as no surprise to the readers of this column. They merely confirm what physicians have known for a long time: Most people in this country still prefer doctors of their own choice and chafe at any system which would restrict them where this prerogative is concerned.

Social Security vs. Workmen's Compensation

"In a strange, almost unbelievable way it has now come about that there can be a premium or a reward for getting disabled on jobs in these United States. In some 40 different states a man or woman can do better financially with a disabling work-connected injury than can be earned at regular wages."

The reason, according to the *Journal of American Insurance* (January 1962) is the "inroads that the Federal Social Security System is making into the Nation's 50-year-old Workmen's Compensation system conceived and administered under the laws of the various states." This, the *Journal* states, will eventually have a profound effect on "our national life and economy."

How did this come about? The *Journal* lists the following legislation enacted or being considered by Congress as the primary factor:

"1956—Disability benefits were provided under the Social Security Law for those 50 years of age and older. Provision was made to deduct from Social Security benefits, or to offset, all disability benefits received under Workmen's Compensation laws.

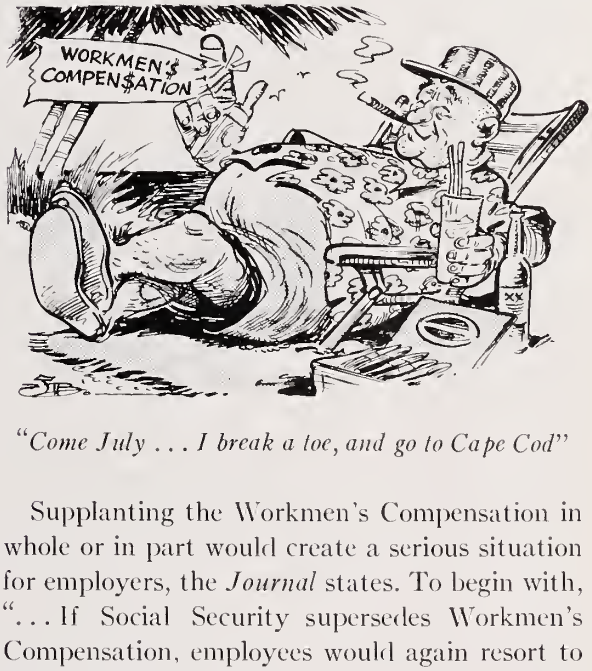
"1958—The provision for deduction of Workmen's Compensation benefits was eliminated, thereby duplicating the benefits.

"1960—The age limitation of 50 years was eliminated, making workers of all ages eligible.

"1961—House Bill 4571 broadened 'disability' to provide payment of Social Security benefits for disability of six months or more duration. In effect, this would provide benefits for persons temporarily disabled. . . ."

Secretary Abraham Ribicoff of the Department of Health, Education, and Welfare is reported to have estimated if H. R. 4571 becomes law (it did not) 85,000 more people will receive additional benefits. Most of them are now drawing Workmen's Compensation benefits under state laws, and the *Journal* prognosticates that "should proponents of such changes be as successful during the next five years as they have been in the past, Social Security could provide duplicate benefits to all workers now covered under state Workmen's Compensation systems."

As an example of what is now happening, a disabled employee, with a wife and two dependents, earning $400 a month, is entitled to $254 in Social Security disability benefits. If he is covered by Workmen's Compensation and lives in Massachusetts he is entitled to receive $252 a month from this source. In the event of disability he would receive a total of $506 a month tax-free during his incapacity. In these circumstances he would be far better off not working because his earnings, as stated above, at $4,800 a year would be subject to a Federal income tax of $400.



"Come July . . . I break a toe, and go to Cape Cod"

Supplanting the Workmen's Compensation in whole or in part would create a serious situation for employers, the *Journal* states. To begin with, ". . . If Social Security supersedes Workmen's Compensation, employees would again resort to suing under common law for work-connected injuries." At present, Workmen's Compensation "confines the employer's liability for work-connected injuries or diseases of his employees to a listed schedule of benefits and necessary medical payments."

In addition, employers would have to contribute an increasing amount to the ever-expanding Federally administered Social Security system as well as to the Workmen's Compensation system.

Finally, if occupational injuries or diseases only are covered under the Social Security program, the "present system of classifying employers in accordance with the industry-hazard scale will be doomed." In other words, there would be less financial incentive to employers to strive for fewer accidents and healthier working conditions for their employees.

In conclusion, the *Journal* poses the question, "Shall the 50-year-old Workmen's Compensation system or the 5-year-old Federal Social Security program be the basic program of compensation for occupational injuries and diseases?" There is no ready answer, but politics will play no small part in the final outcome.

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An Old Story

Inquiries received at the Society's Executive Offices recently emphasize again the confusion which exists among people as to the title "Doctor." Most of the calls have been from individuals who wished to know, first of all, "Is so-and-so a medical doctor?" Frequently he is not. If he is, the next question is, "What are his qualifications?"

So much has already been written on this subject with so little effect that the following comments are perhaps a waste of your Observer's and the reader's time, for there is little to add to what has already been said. However, at best they can do no harm, and may serve to stimulate physicians to enlighten their patients, who in turn may "educate" their friends.

For the purpose of these comments, doctors are divided into two groups, those who treat the sick and those who are engaged in other pursuits. It is the first with which your Observer is primarily concerned.

Incidents brought to the Society's attention prove rather conclusively that many people who should know better take it for granted that anyone who holds himself out as a doctor must be a medical man. Not infrequently this belief is encouraged by those who are not doctors of medicine.

For example, the Society has frequently received reports that in the District of Columbia patients with emotional disturbances treated by psychologists are often under the impression that they are in the hands of a psychiatrist. Only recently your Observer responded to a telephone inquiry from a caller who was much upset when he learned his "psychiatrist" was not a medical doctor. He said that he had been assured to the contrary.

The damage which frequently results in these circumstances will never be known. However, cases of this kind which have come to the attention of psychiatrists reveal the inadequacy of treatment given.

A surprisingly large number of people do not know the difference between an optometrist and an ophthalmologist. The temptation for some of the former to go beyond their qualifications in treating patients has apparently been too great to resist. For example, one attempted to diagnose and treat a patient with a benign brain tumor and because of the delay in its removal he lost his sight.

There are other so-called licensed practitioners of the healing arts who are frequently confused with doctors of medicine. From time to time they have "treated" patients for malignancies over a long period of time. When these patients were finally seen by a medical practitioner they were beyond help.

Legally, there is no prohibition in the District of Columbia against any of the above using the title of Doctor if they are licensed. This is regrettable, but far more serious is the refusal of some to recognize their limitations.

Others who do not treat the sick and who can properly use the "Doctor" title are, of course, Doctors of Divinity, Doctors of Philosophy, and others who have been granted doctor degrees by institutions of higher learning. Most of them do not use their title in such a way as to create an erroneous impression. However, a few are listed in telephone directories as "Dr." without any indication that they are not physicians.

The suggestion has been made many times that to obviate confusion in the public mind as to who is and who is not a doctor of medicine, "M.D." always be used. This is properly done on cards, letterheads and other printed material. However, difficulties arise in conversation and in written communications. One would hardly say to a physician, "Hello, Smith, M.D.," or address him in a letter, "Dear Jones, M.D." Using "Dr. Smith, M.D." is awkward. In these circumstances one has simply to address him as "Doctor Smith."

Fortunately, more and more people are becoming better informed about those who treat them for their ailments. A straw in the wind is the increasing number of queries directed to the Society about the qualifications of doctors. This is encouraging.

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Physicians on Stamps Stamp collecting has long been a popular hobby with individuals of all ages. Many collectors specialize in either foreign or domestic stamps of various periods, and all of them prize stamps which are hard to come by.

Few stamp collections have been more unique than the one which was on display in the Hobby Exhibit during the 29th ANNUAL SCIENTIFIC ASSEMBLY. This one was limited to the stamps honoring physicians.

Whenever doctors become depressed about the criticism currently heaped upon them, here is something to bolster their morale. Likenesses of a number of distinguished members of the profession have appeared on United States postage stamps over the period 1869 to 1961.

The exhibit, prepared for display by Dr. Earl H. Mitchell, Jr., included the following issues:

1869—The Declaration of Independence: There were five physicians who signed: Benjamin Rush for Pennsylvania, Oliver Woolcott for Connecticut, Josiah Bartlett and Matthew Thornton for New Hampshire, and Lyman Hall for Georgia.

1937—Signing of the Constitution: Hugh Williamson was a delegate to the Constitutional Convention in 1787. He treated both American and British wounded in the Revolution, being the first surgeon to do so.

1940—Famous American Educators: Mark Hopkins was a theologian, educator, and graduated as an M.D. from the Berkshire Medical College at Pittsfield, Massachusetts in 1829.

1940—Famous American Scientists: Walter Reed received his M.D. degree at age 17 from the University of Virginia in 1868. He directed the Commission that controlled typhoid and yellow fever in Army camps in the southern United States and Cuba. He died in 1902 following an appendectomy.

1940—Famous American Scientists: Crawford W. Long of Georgia was the discoverer of ether anesthesia. He successfully removed a sebaceous cyst from the neck of James Venable on March 30, 1842. His fee was $2.00, and 25 cents for the ether.

1942—Chinese Resistance Commemorative: Sun-Yat-Sen was the first graduate of the Hong Kong Medical School in 1894. He was the founder of the Chinese Republic in 1912 and was its first President. He died in 1925 from carcinoma.

1947—Doctors Commemorative: In 1871 while Queen Victoria was visiting Balmoral Castle in Scotland, the child of one of her favorite servants became ill. The Queen wired her personal physician, Sir James Clark in London, to come and treat the child. Upon the child's recovery the Queen commanded Sir Luke Fildes to portray the scene of the doctor's devotion.

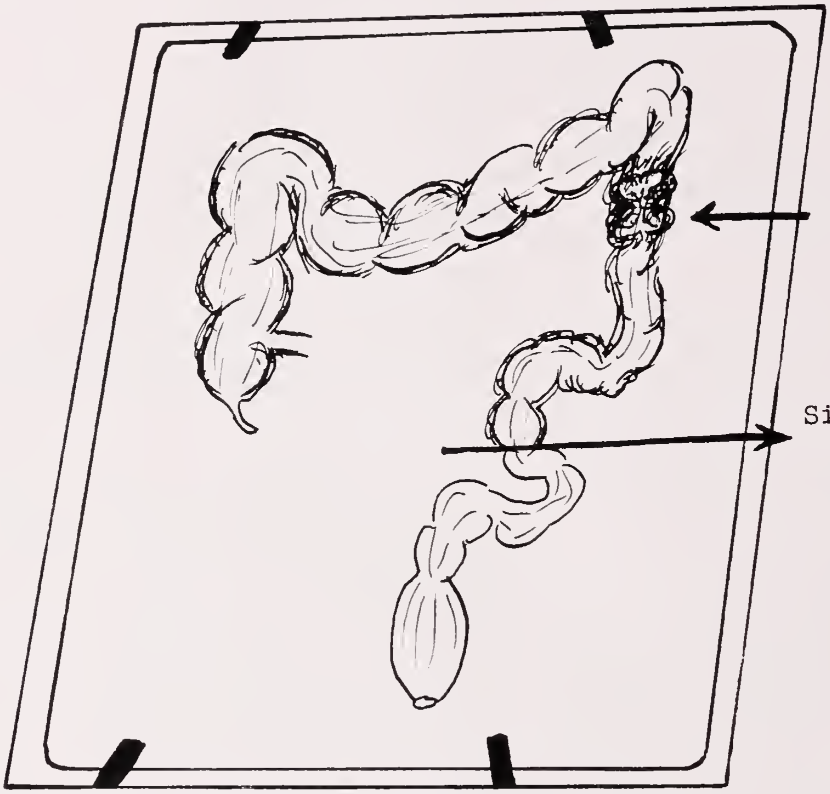
1948—Oregon Territory Centennial: John McLoughlin was born in Canada in 1784 and studied medicine in Edinburgh. He explored and organized the Oregon Territory and is known as the "Father of Oregon."

1956—Pure Food and Drug Law: Harvey W. Wiley was a graduate of the Indiana Medical College and Harvard. He was Chief of the Bureau of Chemistry in the Department of Agriculture, and was the guiding force behind the passage of the Pure Food and Drug Act of 1906.

1959—Dr. Ephraim McDowell: In Danville, Kentucky, in 1809 Ephraim McDowell performed an ovariotomy for an ovarian cyst. The operation was performed in the patient's home without anesthesia and was the first successful abdominal section.

(Continued on page 128)

Approximately, 35,000 *people* Die *of* Cancer of the Colon or Rectum *every year.*



30 per cent of these cancers are above the reach of the sigmoidoscope, and early diagnosis can be made only by barium enema. While still in the asymptomatic stages the cure rate of cancer of the colon is over 70 per cent.

RESEARCH
EDUCATION
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A film, **"Technique of Proctoscopy"**
is available for showing to physicians:

Call or Write

American Cancer Society
District of Columbia Division, Inc.
810-18th Street, N.W.
EXecutive 3-3690

Report on Denver Meeting of AMA House of Delegates*

Your delegates arrived in Denver early in the evening of November 25 to find that the climate in the mile-high city was even more mild than that which we had left. Due to the vagaries of weather the mild spell continued throughout the meeting time and we were able to go about in sunshine without topcoats.

The principal matters discussed at the meetings of the House of Delegates were the position of the AMA in regard to proposed King-Anderson type of legislation and the formation of the American Medical Political Action Committee.

President Leonard Larson, in his opening address, clearly stated the position of the Association in regard to legislation. Socialization versus voluntarism, or compulsion versus freedom of choice, is the compelling issue and he urged that "we take our stand for voluntary coöperation, for preservation of the historic Federal-state organizational structure, for individual responsibility, for help for those persons who *need* help."

His address was excellent; it will be published in the *Journal of the AMA* and is strongly recommended for reading by all members.

The House of Delegates enthusiastically approved Dr. Larson's ideas. It took several actions reaffirming strong support for the Kerr-Mills program and recommending a determined fight against Social Security health care proposals in Congress, and it urged that all component societies recognize the threat and oppose any scheme which would impose a substandard system of medical care on the American people.

The American Medical Political Action Committee has recently been organized because of the realization that effective political action must be carried on at the local level and effective implementation must be done by local groups of physicians. The House strongly approved the purposes and goals of AMPAC, as it is called, and urged all physicians, their wives and interested friends to join this and other political action committees in their states and communities.

The purposes of AMPAC, which is an organization separate and distinct from the American Medical Association, as required by Federal law, are:

1. To promote and strive for the improvement of Government by encouraging and stimulating physicians and others to take a more active and effective part in governmental affairs.
2. To encourage physicians and others to understand the nature and actions of their Government as to important political issues and as to the records and positions of political parties, office-holders and candidates for elective office.
3. To assist physicians and others in organizing themselves for more effective political action and for carrying out their civic responsibilities.
4. To do any and all things necessary or desirable for the attainment of the purposes stated above.

The House agreed with the intent of five resolutions which expressed strong dissatisfaction over recent statements by a spokesman for the American College of Surgeons, and it also approved a Board of Trustees' report informing the House that arrangements have been made for a January meeting with the ACS Board of Regents to discuss that organization's recent statements and policy positions. The report expressed hope that the meeting "will lead to a unification of effort in behalf of American medicine."

The House instructed the Board of Trustees to take the five resolutions to the January meeting and to report to the delegates as soon as possible on the results of the meeting. In taking the action, the House approved a reference committee report which said:

"Your reference committee believes the public airing of disagreements between large segments of medicine can only confuse and shake the confidence of the public in the medical profession and distort the true image of medicine which the American people should have.

"However, in its hearings upon the several resolutions relating to the recent statements of the American College of Surgeons, all those who testified were in opposition to the actions and statements of the ACS. The majority of those who spoke were Fellows of the American College of Surgeons.

"Your reference committee has no wish to fan the flames of controversy ignited by the statements of the American College of Surgeons. On the other hand, the committee feels the House has an obligation to its membership—which includes physicians in all types of practice—to agree with the indignation manifested by the introduction of these resolutions and in the discussions before the committee.

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* This report is a summary of actions of the House of Delegates which met during the 1961 Clinical Meeting of the American Medical Association in Denver, Colorado, November 26-30, 1961.

"This is all the more important because the position of the American College of Surgeons is based on an incorrect interpretation of the action of this House which is in no sense a retreat from its firm opposition to fee splitting."

In a number of other actions the House:

Urged participation in surveys to determine the percentage of the population who have undergone immunization procedures for poliomyelitis and recommended that until such times as all three types of oral vaccine are available, the Salk vaccine be the choice for routine immunization;

Referred back to the Council on Constitution and By-laws a proposed change which would confer original jurisdiction on the Association to suspend and/or revoke AMA membership of a physician found guilty of violating the Principles of Medical Ethics or ethical policies of the Association;

Approved a recommendation that a special committee of the House investigate all facets of operation of the Joint Commission on Accreditation of Hospitals;

Approved the combining of the American Medical Education Foundation and the American Medical Research Foundation into the American Medical Association Education and Research Foundation, effective January 1, 1962.

Your delegates introduced a resolution entitled, "Reaffirmation of Position on Prepayment Health Insurance," which became Resolution No. 18. The Reference Committee on Insurance and Medical Service approved the resolution with this comment: "Progress to date has been slow and it is the opinion of your reference committee that a high priority should be assigned to the activities of this Commission (Joint Commission for Promotion of Voluntary Nonprofit Prepayment Health Plans) so that its objectives can be achieved." The House approved the committee report, thereby adopting the resolution, which is quoted at length for your information:

"WHEREAS, Voluntary prepayment and health insurance continue to be the desirable as well as the only alternative to a wider governmental role in health care, and

"WHEREAS, It is urgent that this voluntary system be more rapidly expanded to meet its full purpose; and

"WHEREAS, Medical support and leadership are essential to its proper development; *therefore*

"*Be it resolved*, That this House reaffirms its support of the position on prepayment insurance taken last year at the Washington meeting; *and*

"*Be it further resolved*, That the Board of Trustees and the Council on Medical Service are hereby directed to pursue more vigorously the duty placed upon them, and that they are to make a detailed progress report to this House at its June 1962 meeting."

Only a few of the important actions of the House have been included above. A more complete report was published in the December 11, 1961 issue of the *AMA News* and your delegates will be happy to discuss any of the material with members of the Society.

Several of our members have asked your delegates why is the Clinical or Interim Meeting continued? The Denver meeting had a total registration of 6,138, of whom 2,976 were physicians. As this registration is only slightly higher than many regional meetings, including our own, and as this question has probably occurred to others, it seemed that an explanation would be of interest to our membership.

In November 1956 the Board of Trustees was directed to study and report back to the House the usefulness of the clinical sessions and the advisability of continuing them. The Board of Trustees reported their findings and recommendations in a report to the House in June 1957, and the House in turn approved the following in regard to that report:

". . . The value of the interim session has been demonstrated in public relations and in areas of scientific activity. Your committee feels that the initial intent of the interim session was to carry the work of the Association to less populous areas of the Nation, where conduct of the annual meeting is not practical. It is obvious that this policy enables many members to avail themselves of these scientific, postgraduate benefits without extensive travel. Concurrently conducted scientific sessions with meetings of the House of Delegates stimulate attendance of those who contribute to the deliberations of the House. The modest and proportionately small addi-

(Continued on page 128)

The Functions of a State Medical Journal*

THEODORE R. VAN DELLEN, M.D.

Editor, Illinois Medical Journal

THE PRIMARY PURPOSE of the average medical journal is the dissemination of medical information. Since state medical journals are official organs of the component societies, they must report the official news of the association in addition to scientific and clinical material. To this might be added any special information that is not necessarily medical but serves a useful purpose.

Medical organizations today are greatly concerned with socioeconomic problems as they relate to the profession. This emphasis has not changed the purpose of the state journal but it means that less space is allocated to scientific articles and editorials. The medical editor of the state journal is caught between his natural inclination to include clinical material and pressures from those employed by the society to implement new projects.

The trend is to deëmphasize the clinical and to concentrate on medical organization, public relations, methods of influencing public opinion, the creation of good will for physicians and their organizations, adequacy of medical facilities, fees, cost of hospital care, legislation affecting the medical profession, public health, medical education, Social Security, relative values, third parties, and similar subjects. Meanwhile, other journals are doing a better job of disseminating medical information on clinical subjects, and to duplicate this material would be a waste of time, money and effort.

Communication research reports that the average physician spends 45 minutes a day reading. Competition for this precious three-quarters of an hour is very keen, and the editors of state medical journals must vie for their share of time with the hundreds of specialty journals, throw-aways, and paramedical magazines and news sheets.

State medical journals as a group never have served as a medium for the best scientific papers; the majority of these go to specialty journals. The state journal must be content with papers delivered at the annual meeting along with case histories and articles on new drugs and procedures. Many of these papers are good but often lack originality; they review existing knowledge. They usually are written by specialists but are aimed at general practitioners. On the other hand, material of this type can be worthwhile, especially when it promotes the philosophy that the state journal is "our journal."

Another function of state medical journals is to serve as a vehicle for training physicians to write, giving the younger men an opportunity to publish scientific articles, editorials, and book reviews. Medical research has become a new way of life for many scientifically-minded young physicians. It is their "bread and butter," and they must have some place to put the fruits of their labor into circulation. This type of writing enables them to build a reputation along with writing skills.

State journals also serve as a medium for news of considerable importance to its own members as well as a respository for historical material. In many areas there is no outlet for this type of copy except in the state journal.

The editorials reflect the intelligence and ability of the editor. They are written by the editor or others, but, regardless of the authorship, the editor takes full responsibility and usually edits all material. The journal, through its editorials, has a weapon to wage campaigns in behalf of ethical medicine, for freedom in medical practice, for high standards of medical education, and against quacks and the forces that tear down ideals and objectives. Editorials also bring new advances and ideas to the attention of the reader in capsule form. The subject matter is well received when it is new, timely, and informative, and it is for this reason that the editor must be aware of what is going on in the world of medicine.

The socioeconomic and political aspects of medicine are becoming more complex and are beginning to tug at the grass roots. The state journal must yield to the new demands of its readers for more up-to-date information on local and national medical issues. In this area it can be invaluable. It can do something no other journal can do, namely, to report and interpret issues of importance to the practitioner. Some medical societies are overwhelmed with information

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* Address delivered before the State Medical Journal Conference in Chicago, Illinois, October 30, 1961.

UBLIC
PLY
ICE

DR. FROHMAN "ON THE AIR" WITH HEALTH NEWS

Dr. I. Phillips Frohman (left) is being interviewed at the AMA Clinical Meeting in Denver, November 27, by staff member Ralph Knowles on pertinent health topics. Dr. Frohman is Past Chairman of the AMA's Section on General Practice and is a member of the Editorial Board of the Medical Annals.

of this type and present the overflow in special pamphlets or supplements. Here in Illinois, for example, we publish several of these annually.

Physicians have been forced into political activity because of imposed pressures, and there is no better place than the state journal to pass on information along this line. The state journal should keep physicians abreast of proposed legislation so they may vote intelligently and organize to effect or defeat this legislation. Once legislation has been passed, it must be explained to the busy practitioner so that he understands how it will affect him. The Mill-Kerr Bill recently passed in the state of Illinois is a good example. It is a complicated piece of legislation involving the entire membership. None of the specialty journals can devote the space to explain all of its ramifications as implemented by each state. This type of information is made to order for the state journal. The same can be said of other areas including public health, Social Security, relative value studies, prepayment plans, and third-party payments.

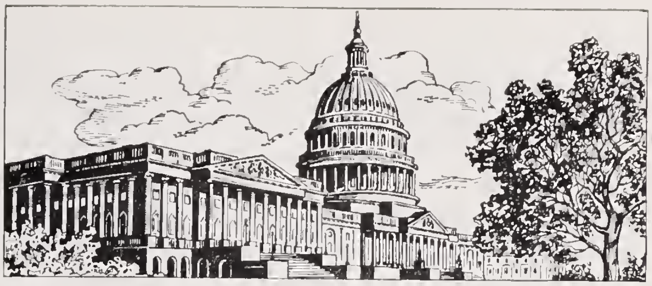
According to Mr. Albert G. Boeck, Director of Publications for the Illinois State Medical Society, more and more physicians are relying upon state journals to keep them posted on this type of information. They want to be alerted to future programs that might call for action at the grass roots level. This type of material may be difficult to obtain and usually requires a well trained lay executive director with a large staff of laymen trained in various socioeconomic fields. It is best not to rely upon information obtained through dedicated but overworked, opinionated members.

Most state journals have a captive readership which is not necessarily an advantage. In the circumstances, the editor must give as much consideration, if not more, to his layout as does a business executive when planning a sales promotion campaign. The journal must arouse interest, get attention, create desire, and precipitate action. In this way the journal may be able to obtain a share of the physician's reading time to inform, reform, educate, uplift, stimulate, and even intrigue the reader. Its existence is justified if it can accomplish this.

In the future it may be advisable to streamline the journal and present the clinical material in capsule form. The editorial staff of the society might consider this additional work as an added service to the membership. The alternative is a complete synopsis of the contents of the entire journal for those wishing to be briefed on local activities and medical progress that can be read while waiting for dinner or at bedtime.

Should the state medical journal be used as a political organ? This depends upon the desires of the governing bodies. Attacks on or defense of certain political groups are part of our civic duty. We cherish the right to express our opinions openly as free individuals. But professional groups should use discretion and avoid being identified with one party or the other. This does not apply to reports or opinions on specific legislation.

Another function of the state journal is to provide an ethical medium by which its advertisers can reach their legitimate public. Many publications could not exist without the revenue derived from this source. The state journals are not in this category as a rule and there is no need to become dependent upon advertisers' favor or to be influenced by arbitrary demands. Every state journal should have an advertising code of ethics and make a conscientious effort to accept only those ads that conform to it. The code serves as a guide to avoid advertising that is in poor taste or that includes unscientific or exaggerated claims.



NEWS & PERSONALS

Meetings

The Washington Gynecological Society will hold a special meeting, February 28, in the Medical Society's auditorium, beginning at 8 p.m., when Dr. C. K. Fraser, Chairman of the Medical Society's Obstetrical Board, will present a paper on "Maternal Mortality Studies of the Obstetrical Board over a Ten-year Period." His paper will be discussed by Dr. Bayard Carter, of Durham, N. C., who is Chairman of the Department of Obstetrics and Gynecology at Duke University Medical Center. Presiding will be the President of the Society, Dr. David H. Kushner.

Obstetricians, general practice obstetricians, interested physicians, and the resident staff of the Washington Metropolitan hospitals are cordially invited to attend this meeting.

Dr. Roy Parker, Associate Professor of Obstetrics and Gynecology at Duke University Medical Center, will come to Washington as a Ford Foundation Professor in Residence in Obstetrics at the **Washington Hospital Center,** March 5 and 6.

On Tuesday evening, March 6, Dr. Parker will speak in the auditorium, at 8 p.m., on the subject, "Problems in the Diagnosis and Treatment of Ovarian Cancer"; staff members and all interested physicians are invited.

The District of Columbia Dental Society extends an invitation to members of the D. C. Medical Society to attend its **30th Annual Postgraduate Clinic** at the Shoreham Hotel, March 4–7. Some of the papers to be presented will be of interest to physicians. Dr. James P. Scanlon, a member of the District Medical Society, will speak on "Psychiatry and Dentistry" in a Special Clinics program, March 7.

Preceding the Postgraduate Clinic the American Society of Psychosomatic Dentistry and Medicine will hold its annual meeting at the same hotel, beginning Friday evening, March 2, up to and including Sunday, March 4. The main theme of the program will be "Patient Relationship: Its Importance and Development in the Clinical Setting of General Practice." All dentists, physicians and psychologists are cordially invited to attend these meetings. Since this program will not be devoted entirely to hypnosis, members of the Academy of General Practice will receive Category II credit for attendance. Dr. Jesse Caden, Chairman of the Program Committee, 5213 Connecticut Avenue, N.W., Washington 15, D. C., will be glad to furnish a detailed program.

The St. George Society will hold its final meeting of the 1961–62 season on Tuesday, March 20, in the D. C. Medical Society's auditorium, at 8 p.m. There will be a panel discussion on the subject, "Are Smoking and Air Pollution Causes of Lung Cancer?" Moderator will be Dr. Brian Blades, Professor of Surgery, George Washington University School of Medicine. Panelists will be Dr. Michael B. Shimkin, Associate Director for Field Studies, National Cancer Institute, and Dr. Richard A. Prindle, Deputy Chief, Air Pollution Control, Public Health Service.

All physicians are invited to attend the meeting. A coffee hour in the library will follow the program.

The Medical and Chirurgical Faculty of the State of Maryland will convene for its **164th Annual Meeting** at The Alcazar in Baltimore, April 4, 5 and 6. Members of the Medical Society of the District of Columbia are cordially invited to attend the sessions. There will be no registration fee.

On the opening day, April 4, three special lectures will be given during the afternoon, namely, the Hundley Lecture on Gynecology, by Dr. Joe V. Meigs, of Boston; the Trimble Lecture on Surgery, by Dr. Charles W. Mayo, of Rochester; and the Finney Lecture on Surgery, by Dr. Rawley M. Penick, Jr., of New Orleans. In the evening of the same day there will be a Medicolegal Symposium on Consent in Medical Practice.

The morning of April 5 will be given over to a Trauma Panel, headed by Dr. Robert H. Kennedy of the American College of Surgeons. During the luncheon period 25 round table discussions have been planned. The first paper in the afternoon will be the Stokes Lecture on Antibiotics, by Dr. Maxwell Finland, of the Harvard Medical School. Following the lecture there will be a panel on Physiological Monitoring in Operating and Recovery Rooms, led by Dr. Donald W. Benson, of Johns Hopkins. The Presidential Dinner will conclude the activities for this day.

A panel session on Friday morning, April 6, will concern gastrointestinal diseases. Dr. Thomas P. Almy, of Cornell University Medical College, will head the panel. Among the panelists will be Dr. William S. McCune, Clinical Professor of Surgery, George Washington University.

A more detailed program may be secured by writing to Dr. Houston S. Everett, Committee on Program and Arrangements, Medical and Chirurgical Faculty, 1211 Cathedral Street, Baltimore 1, Md.

A Postgraduate Seminar on Arthritis and Rheumatism will be held at the Hotel Roanoke in Roanoke, Virginia, on April 14 and 15, with nationally known speakers on the program. The Seminar is being planned by the Virginia Chapter of the Arthritis and Rheumatism Foundation, with the coöperation of the Roanoke Branch of the Chapter. The program will be supported by the Merck, Sharp and Dohme Postgraduate Program. The registration fee will be nominal. Reservations should be sent to the office of the Executive Director of the Virginia Chapter, P.O. Box 1004, Lynchburg, Va.

An area-wide **Scientific Symposium** sponsored jointly by the **Washington Heart Association and the Northern Virginia Heart Association,** will be held in the auditorium of the District of Columbia Medical Society on April 25. The subject of the symposium will be "Coronary Artery Disease and Congestive Heart Failure." Out-of-town speakers scheduled to participate in the program include Drs. Paul Dudley White, Mason Sones, James Warren, George Burch, and J. Scott Butterworth.

Dr. W. Proctor Harvey, of Georgetown University School of Medicine, newly appointed Chairman of the Scientific Council of the Washington Heart Association, is also chairman of the special planning committee for this symposium. Working with him are Drs. Thomas W. Mattingly, Jack P. Segal, Frank I. Marcus, Eugene Braunwald, Irene Hsu, and Modestino G. Criscitiello. Representing the Northern Virginia Heart Association on the committee are Drs. James M. Moss, John W. Roark, Edward Gallagher, and Albert Rigsby.

Dr. Harvey announces that the Scientific Council of WHA is also reviving a series of local scientific presentations at and by local institutions which were popular in past years. Notices of these presentations will be announced when scheduled. Membership in the Scientific Council is open to all members of the D. C. Medical Society, physicians in local medical institutions, and allied scientists.

Dr. Harvey was recently honored by the American Heart Association when he was appointed to serve on the Executive Committee of its Council on Clinical Cardiology for a one-year term.

An International Psychoanalytic Forum is scheduled for July 27–31, 1962, in Amsterdam, The Netherlands. This meeting is being promoted by an "Organizing Committee" consisting of psychoanalysts who are interested in the development and expansion of psychoanalysis as a science of human behavior, in line with recent advances in biology, sociology, psychology, anthropology, and other related social sciences. The topic for the

Forum will be "Present-day Trends in Psychoanalytic Theory and Therapy."

The Organizing Committee consists of members of The Academy of Psychoanalysts in the United States and of similar organizations in Germany, The Netherlands, Belgium, Mexico, and other countries throughout the world. Two members of the Committee are members of the District of Columbia Medical Society, namely, Dr. Leon Salzman and Dr. Edith H. Weigert. They are interested in knowing the names of any scientists who would like to attend and take part in the discussions.

General News

Dr. James W. Watts, Chairman, presided at the meeting of the **Executive Board of the Medical Society of the District of Columbia,** December 18, 1961. Dr. Raymond T. Holden, senior delegate to the American Medical Association, read the report of the delegates who attended the Clinical Meeting of the AMA in Denver, November 26–30. The report was accepted with commendation for its excellence. The Board also voted to commend the delegates for the capable manner in which they represented the Society at the Clinical Meeting.

The Chairman submitted for the approval of the Board a tentative list of committee appointments for the coming year, submitted by Dr. J. Spencer Dryden, President-elect. They were approved subject to confirmation by the new Board after January 1.

Dr. Wallace M. Yater, Editor of the MEDICAL ANNALS, submitted for approval of the Board the name of Captain Thomas E. Cone, Jr., MC, USN, Chief of the Pediatric Service, U. S. Naval Hospital, who had been nominated by Captain R. B. Brown, Commanding Officer of the National Naval Medical Center, to succeed Captain R. O. Canada as Consulting Editor of the MEDICAL ANNALS. Captain Canada has left Washington for another assignment. The Board approved the selection.

Dr. C. K. Fraser, Chairman of the Obstetrical Board, submitted for the Board's approval the following physicians to serve as associate members of the Board: Dr. Ernest W. Lowe, from D. C. General Hospital; Dr. S. Hazen Shea, of the Washington Hospital Center; and Colonel Edward A. Zimmerman, Chief of the Obstetrical and Gynecological Service at Walter Reed General Hospital. The Board expressed its approval of these appointees from the several institutions.

Dr. C. Willard Camalier, Jr., was appointed co-chairman of the Second Interstate Scientific Assembly, to be held jointly with the Medical Society of Virginia this fall.

The Board voted to ask President Stubbs, who will serve as the new Chairman of the Committee on Public Policy after January 1, and the Secretary to attend the National Legislative Conference of the AMA in Chicago, January 26 and 27.

At the request of President Stubbs the Secretary submitted the following appointees to the "Health USA" Awards Committee, subject to approval by the Metropolitan Washington Board of Trade:

Dr. Philip H. Abelson, President, Washington Academy of Sciences
Dr. Frank Berry, Assistant Secretary, Defense Department
Dr. Robert D. Caulkins, President, Brookings Institute
Dr. Worth B. Daniels, Chairman, Board of Regents, National Library of Medicine
Dr. V. T. DeVault, Medical Director, Department of State
Dr. Hugh H. Hussey, Dean, Georgetown University School of Medicine
Dr. Robert S. Jason, Dean, Howard University School of Medicine
Dr. John L. Parks, Dean, George Washington University School of Medicine
Judge E. Barrett Prettyman, U. S. Court of Appeals
Dr. Albert V. Rigsbee, Medical Director, Acacia Life Insurance Company
Dr. Donald Stubbs, President, The Medical Society of the District of Columbia
Dr. Luther L. Terry, Surgeon General, U. S. Public Health Service
Mr. John W. Thompson, Jr., President, Board of Trade
Dr. Janet Travell, Personal Physician to the President of the United States

Doctors in the United States can now subscribe to a service known as **Mediphone, Inc.,** which will give them information by telephone on any available drug. The offices, located at 1500 Massachusetts Avenue, N.W., are open 24 hours a day. For this service a physician pays $20.00 a year membership fee plus $3.00 a call and the long-distance telephone charges. This is a commercial enterprise, with none of the funds provided by drug companies.

Mediphone estimates that there are now some 8,600 drugs in use in the United States. The entire body of information on this vast array of drugs will be kept up-to-date by a team of medical librarians and members of the Department of Pharmacology of George Washington University, assisted by advice from Mediphone's Board of Associate Directors. As an added service, Mediphone will provide limited Poison Control Center Service.

Dr. Clifton R. Brooks is the Senior Medical Respondent of this new service organization.

Effective January 1, 1962, the programs of the American Medical Education Foundation and the American Medical Research Foundation were consolidated within the framework of a single organization—**the American Medical Association Education and Research Foundation.**

At the same time, these programs will be expanded, and a concerted effort made to provide increased financial assistance to medical schools, in addition to financing the other projects of the Foundation.

The Foundation is incorporated under the laws of the State of Illinois as an educational, scientific organization. All the contributions to the AMA-Education and Research Foundation are tax-deductible under Section 501 (c) (3) of the U. S. Internal Revenue Service Code.

The affairs of this Foundation are managed by a Board of Directors elected annually by and from the membership of the Board of Trustees of the AMA. Presently, Dr. Hugh H. Hussey, Jr., Chairman of the Board, is President of the Foundation.

The Civilian Personnel Office of the U. S. Army Engineer Center and Fort Belvoir (Virginia) is recruiting to fill a **vacancy for Medical Officer (Occupational Health and Medicine)** at a salary of $11,155 or $12,730 per annum, depending upon the applicant's qualifications and experience. The vacancy exists at the DeWitt Army Hospital, Fort Belvoir, Va. The incumbent will serve as Director of the Civilian Employee Health Program and will be responsible for the planning, development, testing and supervising of Occupational Health units of the U. S. Army Engineer Center and the U. S. Army Engineer Research and Development Laboratories.

Inquiries should be addressed to Mr. Payne, Chief, Recruiting Branch, Civilian Personnel Office, Fort Belvoir, Virginia, or telephone ED 9-5500, Extension 24267.

The new building of the National Library of Medicine, on the grounds of the National Institutes of Health, in Bethesda, Maryland, was dedicated in a two-day ceremony, December 14 and 15. Part of the observance was a celebration of the Library's 125th anniversary.

The dedication ceremonies opened on Thursday, December 14, at 3 p.m., with Dr. Worth B. Daniels, Chairman of the Board of Regents of NLM, presiding. The principal addresses were delivered by Senator Lister Hill, of Alabama, co-author with the then Senator John F. Kennedy of the National Library of Medicine Act of 1956, which authorized construction of the new building, and the Honorable Abraham Ribicoff, Secretary of Health, Education, and Welfare. Ambassador Alexis S. Liatis, of the Government of Greece, presented the Library with a cutting from an Oriental plane tree which grows on the Island of Cos, and under which Hippocrates is reported to have taught his pupils. The tree will be planted on the Library grounds next spring.

On Friday, December 15, Dr. Frank B. Rogers, Director of the Library, was chairman of a Symposium on Books and Medicine. He spoke on the many unique contributions to medicine made by Dr. John Shaw Billings, among them the founding of the old Army Medical Library, renamed the National Library of Medicine.

The building, which cost about seven million dollars, will house the greatest collection of medical literature in the world, with space for about a million and a quarter bound volumes. The structure has five floors, three of them below ground level. It was incomplete at the time of the dedication but transfer of books is expected to begin this spring. The Library's vast collection has been housed at Seventh Street and Independence Avenue, S.W. since 1887. The historical and rare book collections, at present housed in rented space in Cleveland, Ohio, will also be transferred to the new building.

The Section on Pathology and Laboratory Medicine of the Medical Society of the District of Columbia met for election of officers in the Medical Society's building, December 19. The new officers are:

Dr. Grace H. Guin, *Chairman;* Dr. Robert W. Woods, *Vice Chairman;* and Dr. William G. Battaile, *Secretary-Treasurer.*

The following elected officers will serve the **Allergy Society of the District of Columbia** during 1962:

Colonel Harold E. Ratcliffe, *President;* Dr. Harry A. Horstman, *President-elect;* and Dr. Audrey M. Connor, *Secretary-Treasurer.*

St. Luke Physicians' Guild of the Archdiocese of Washington was organized at a meeting, January 4. The first officers elected were:

Dr. Paul F. Jaquet, *President;* Dr. Peter N. Lombard, *Vice President;* and Dr. Robert H. Parrott, *Secretary-Treasurer.*

All Catholic doctors living in the Archdiocese of Washington are invited to affiliate with this new organization. Non-Catholic physicians who reside or practice in the same area and who are in accord with the objectives of the Guild are also invited to apply for membership.

New officers of the **Fairfax County (Virginia) Medical Society** are:

Dr. Robert J. O'Donnell, *President-elect;* Dr. George J. Fleury, Jr., *Vice President;* Dr. Kenneth W. Berger, *Secretary;* and Dr. C. Barrie Cook, *Treasurer.*

Dr. Joseph A. Provenzano is President for 1962. Drs. Fleury and Cook are Associate members of the District of Columbia Medical Society.

The following officers will serve the **medical staff of Children's Hospital** during 1962: Dr. John A. Washington, Chairman; Dr. C. Edwin McNamara, Vice Chairman; and Dr. Sydney Ross, Secretary-Treasurer.

The medical staff of Arlington Hospital has elected Dr. William L. Harris to be Chief of Staff for a one-year term. He succeeds Dr. Raymond Schwartz. Dr. C. J. Weimer will serve as Assistant Chief of Staff and Dr. John J. Nolan as Secretary.

D. C. General Hospital broke ground for a **new doctors' residence,** January 8. The new building will be eight stories high, to be built at a cost of $1,200,000, and is scheduled for completion in 1963. It will replace a three-story brick structure on the hospital grounds which has been in use as a residence for interns and resident physicians since 1951. The latter building was known as the Washington Asylum Hospital when it was erected in 1859 and has been used for many different purposes during the intervening years.

Montgomery General Hospital, in Olney, Md., the oldest private hospital in Montgomery County, has been accredited for the first time by the Joint Commission on Accreditation of Hospitals. It was formerly known as the Montgomery County General Hospital.

Dr. William W. Bauer retired, January 1, as **Director of the American Medical Association's Department of Health Education.** He has been succeeded by **Dr. Fred V. Hein,** who has served as consultant to and Assistant Director of the Department since 1946.

Dr. Bauer has been named Director Emeritus of the Department he has headed since 1932 and will continue to serve as consultant to the AMA Division on Environmental Health. He will work mainly in the area of health education of older persons.

Dr. Bauer is author or co-author of nine books and numerous magazine articles pertaining to health. He is the former editor of *Today's Health* and since last summer has written a syndicated newspaper column on health and medicine.

Dr. Hein received his Ph.D. degree from the University of Wisconsin and has taught all phases of health and physical education from the elementary through the college level. He is the author of health texts and a contributor to periodicals in the field of health education.

Dr. James V. Watt, Director of the Division of International Health, Public Health Service, has received the annual Award of Merit of the American Heart Association for distinguished service in the Association's national programs of research, education and community service. The award was presented by Dr. J. Scott Butterworth, of New York, President of AHA, at a luncheon of the Board of Directors in Gettysburg, Pa., December 9. Among those present at the luncheon was Dr. John W. Latimer, Jr., President of the Washington Heart Association.

Dr. Watt has been liaison to the AHA Board from the National Heart Institute since 1953, until he recently accepted the directorship of the Division of International Health. He is a member of the Board of Directors of the Washington Heart Association.

Dr. Hubert V. Pipberger, on the staff of Mt. Alto Veterans Administration Hospital and a member of the faculty of Georgetown University School of Medicine, received the second William S. Middleton Award for his research in the diagnosis of heart disease, including coronary artery disease. He has pioneered and excelled in the automatic processing of cardiovascular data. The award is a plaque established in 1960 by friends of the VA's Chief Medical Director, Dr. Middleton; it was presented at the Twelfth Annual VA Medical Research Conference in Cincinnati, December 5.

The first National Poison Prevention Week will be observed, March 18–24, 1962. A recent Act of Congress authorized the President to designate the third week of March each year as a time to call attention to the prevention of poison. The program for the 1962 Poison Prevention Week will be directed toward prevention of accidental poisoning of children under five years of age.

Personals

Dr. Theodore J. Abernethy is the new President of the Medical Staff of the Washington Hospital Center, succeeding Dr. Edgar W. Davis. Dr. Abernethy was Chairman of the Department of Medicine at the Hospital Center in 1958 and 1959. A graduate of Johns Hopkins University School of Medicine, he is on the teaching staff of George Washington University as Assistant Clinical Professor of Medicine.

Dr. Harold Jeghers was the guest of honor of the Department of Medicine of Georgetown University School of Medicine on December 11, 1961, which the Department designated as "Jeghers Day." Dr. Jeghers was Professor and Chairman of the Department of Medicine at Georgetown from 1946 to 1956 and is currently Professor and Director of the Department of Medicine at Seton Hall College of Medicine in Jersey City, New Jersey. He retains his membership in the District of Columbia Medical Society as an Associate member.

The program for Jeghers Day included a dedication of the Jeghers Room on the second floor of the Hospital. This room is the official library and seminar room for the Department of Medicine. There was also a scientific session in the Gorman Auditorium. Many interns, residents and fellows who trained under Dr. Jeghers during his tenure at Georgetown were present to honor him.

Dr. Seymour Alpert was named Grand Consul of Phi Delta Epsilon at the 57th Annual Meeting of the fraternity in New York City, December 29. Phi Delta Epsilon has more than 16,000 members in the United States and Canada; it has chapters in 48 medical schools and 37 graduate clubs in major cities. Dr. Alpert is Associate Professor of Anesthesiology at George Washington University School of Medicine.

Dr. Richard B. Castell has been elected to George Washington University's Hall of Fame, an organization of former G. W. athletes who have distinguished themselves since graduation. Dr. Castell is on the teaching staff of George Washington University as Associate in Medicine and University physician.

Dr. Castell starred in basketball when he served on the team from 1929 to 1931. Now physician to the Colonials, G.W.'s sports boosters club, he is also Past President of the Colonials and the G.W. Lettermen's Club.

Dr. Herbert P. Ramsey, Chairman of the Hospital Advisory Council to the District Commissioners, announced his resignation as Chairman and member at a meeting of the Council, December 12. The Council moved to express its appreciation to Dr. Ramsey for his leadership in community-wide planning of adequate hospital facilities.

Dr. John P. Adams resigned from the Professional Vocational Rehabilitation Advisory Council to the D. C. Commissioners, effective November 9, 1961.

Dr, H. King Vann, of Silver Spring, Maryland, an Associate member of the District of Columbia Medical Society, has been elected to the Board of Directors of the Citizens Bank of Maryland.

Membership

The following applicants for membership were duly elected to membership by the Executive Board, December 18, 1961, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

Maria Benzinger, George Washington University Hospital
Cutting B. Favour, D. C. General Hospital
Tibor E. Frekko, 4830 V Street, N.W.
Henry D. Lederer, Georgetown University Hospital
Marion Mann, 2817 Brentwood Road, N.E.
Hildrus A. Poindexter, 513 23rd Place, N.E.
Patricia H. Russell, George Washington University Hospital
Thomas G. Shelton, Freedmen's Hospital

Associate Members

John D. Archer, Department of Health, Education, and Welfare
Carl M. Hasegawa, ℅ F.P.O. San Francisco, California
Joseph J. Romero, 1463 Rhode Island Avenue, N.W.
Gordon S. Siegel, Department of Health, Education, and Welfare

Resident-Intern Member

Gyorgy Dudas-Gyorki, Washington Hospital Center

Nine New Life Members

Chapter II, Article III, of the Constitution of the Society, reads as follows:

"Life members shall be Active members who have been Active members for a total of forty years. They shall have all of the privileges of Active membership and shall be exempt from paying dues and assessments."

Our honor roll now numbers 72. The congratulations of the Society are extended to:

Seniority Number		*Date of Membership*
809	Edward A. Cafritz	January 4, 1922
811	Robert R. Hottel	January 4, 1922
812	William H. Jenkins	January 4, 1922
813	Howard F. Strine	March 1, 1922
816	George B. Trible	March 1, 1922
818	J. Winthrop Peabody, Sr.	March 1, 1922
820	Matthew White Perry	May 3, 1922
824	Frederick C. Schreiber	November 1, 1922
827	Daniel B. Moffett	November 1, 1922

who have for forty years been on the roster, meeting all dues and assessments and lending their support to the Society by frequent attendance. Their status is now elevated to Life membership.

Obituaries

GRAFTON TYLER BROWN, B.S., M.D.

(1893–1961)

Dr. Grafton Tyler Brown, nationally known allergist, died, December 26, 1961, at Johns Hopkins Hospital in Baltimore after a short illness. He lived at 1315 Thirty-first Street, N.W.

Dr. Brown, a Washingtonian, was born, October 2, 1893, to William Thomas Brown and Alice Grafton Brown. He attended Friends School and Georgetown College and University. He received the degree, Bachelor of Science in medicine, in 1917, and two years later his medical degree.

Dr. Brown interned at the Atlantic City (New Jersey) General Hospital and served as resident physician at the same hospital. He gained his knowledge in the field of allergy through intensive private study. At the time of his death he was Chief of the Division of Allergy at Doctors Hospital. He was also on the consulting staff of Georgetown University Hospital. He limited his practice to allergy.

Dr. Brown was a lecturer on allergy for a number of years at both George Washington University and Georgetown University Schools of Medicine. In 1949 he was a consultant on allergy to the United States Public Health Service.

He was a diplomate on the American Board of Internal Medicine in both internal medicine and allergy. He was a Fellow of the American College of Physicians, the American College of Allergists, the American Academy of Allergy, and the Academy International of Medicine. He would have become eligible for Life membership in the Medical Society of the District of Columbia on January 1, 1962. He was a member of the American Medical Association, the Southern Medical Association, American Therapeutic Society, and the Georgetown Clinical Society.

Dr. Brown's list of contributions to the literature in the field of allergy is a long one. He was the author of a book, "Pollen Slide Studies," which was published in 1949. He had also contributed chapters on allergy to medical books edited by others.

Surviving Dr. Brown is a brother, Mr. William S. Brown, of Chicago.

Most of his estate was willed to the National Foundation for Asthmatic Children in Tucson, Arizona.

LEONARD MILTON DUB, B.S., M.B., M.D.

(1905–1962)

Dr. Leonard M. Dub, Washington psychiatrist for many years, died in his offices at 1634 19th Street, N.W., January 2, 1962.

Dr. Dub was born, November 18, 1905, in Cincinnati, Ohio, to Louis and Lillian Dub. He was educated in the public schools of Cincinnati, and received his premedical and medical training at the University of Cincinnati, earning three degrees—B.S. 1930, M.B. 1932, and M.D. 1933. He interned at Northwestern University Wesley Memorial Hospital, 1933–34, and served a residency in pediatrics at the University of Michigan for a year. He took a year's training in psychiatry at Newberry Michigan State Hospital and continued his specialty training at East Moline, Illinois State Hospital and Longview, Ohio State Hospital.

Dr. Dub came to Washington in 1941 with the Public Health Service to serve as psychiatrist at the National Training School for Boys, and he continued in this position until 1944. He was Acting Chief of Psychiatry at Children's Hospital from 1944 to 1951 and later was Chief of the Department of Psychiatry at Prince Georges General Hospital. He was on the staff of Georgetown University School of Medicine from 1944 to 1946 and taught at the Metropolitan Police Academy from 1945 to 1950.

He was a diplomate of the American Board of Neurology and Psychiatry and the American Board of Legal Medicine. He was a Fellow of the American Psychiatric Association, an Active member of the Medical Society of the District of Columbia since 1941, a member of the Society's Section on Neurology, Neurosurgery and Psychiatry, and a member of the Jacobi Medical Society, the American Prison Association, and the American Association on Mental Deficiency. To assist in his work with children he took up sleight of hand and became very proficient in this art. He was a member of the Society of American Magicians and the Brotherhood of International Magicians.

He was the author of many articles relating to psychiatry and child guidance.

He leaves his wife, Mrs. Ruth Okrent Dub, and a daughter, Petra O. Dub, a student at Cornell University. Their home is at 3500 Harwick Lane, Kensington, Md. He is also survived by a sister, Mrs. Grace Burns, of Long Beach, California.

FUAD IBRAHIM KAIBNI, A.B., M.D.

(1920–1961)

Dr. Fuad I. Kaibni, young Washington obstetrician, died suddenly, November 13, 1961, at Prince Georges General Hospital. He had practiced in Washington since 1950, with offices at 1801 Eye Street, N. W.

Dr. Kaibni was born in Jerusalem, Palestine, August 17, 1920. He was graduated from American University of Beirut, Lebanon, receiving his A.B. degree in 1941. He continued his medical education at the same institution, graduating in 1947. He interned at City Hospital, Jerusalem, the following year and then came to the United States for postgraduate work in obstetrics and gynecology. He interned at Garfield Memorial Hospital in the District of Columbia for a year and spent a year's residency at the same hospital, followed by a two-year residency at Sibley Memorial Hospital.

In 1954 Dr. Kaibni became a naturalized citizen of the United States. He was on the medical staff of both Prince Georges and Sibley Hospitals, where he also served on the teaching faculties.

He became an Associate member of the Medical Society of the District of Columbia in 1952 and was elected to Active membership in 1955. He was a member of the Washington Gynecological Society and the American University of Beirut Alumni Association.

He leaves his wife, Mrs. Simia Kaibni, and two small children, a son and daughter, Ibrahim Fuad and Janan Amal, residing at their home, 4200 Cathedral Avenue, N.W. His parents, Mr. and Mrs. Ibrahim Kaibni, of Ramallah, Jordan, also survive.

Radiation and Pregnancy—Lebherz and Ellinger

(*Continued from page 70*)

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Innocent Systolic Murmur—Shugoll

(*Continued from page 76*)

Acknowledgment: I am indebted to Captain R. J. Pearson, Jr., MC, USN, and to Commander J. J. Dempsey, MC, USN, for their encouragement and valuable advice.

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Hyperkalemia and Sodium Restriction—Pearson and Cone

(*Continued from page 84*)

formula (reconstituted Lonalac) as the infant's sole diet plus the need for vigorous use of mercurial diuretics in an effort to control the severe congestive heart failure.

Reconstituted Lonalac contains 1.1 mEq./l of sodium and 33.3 mEq./l of potassium, resulting in a K/Na ratio of 33. Cow's milk, however, contains 25.0 mEq./l of sodium and 35.0 mEq./l of potassium, giving a K/Na ratio of 1.4.

A possible hypothesis to explain the marked hyperkalemia in this infant would be that stringent sodium restriction favors potassium retention because sodium ions are required for the renal excretion of potassium ions. This ion exchange occurs within the renal tubules, and for each potassium ion excreted one ion of sodium must be reabsorbed from the intratubular fluid. Lonalac with its high K/Na ratio in comparison with cow's milk may thus lead to potassium retention, especially if it is used as the infant's sole source of calories.

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Carcinoma of Larynx—Sweeney and Taylor

(*Continued from page 87*)

much larger in most cases than can be determined by preoperative laryngoscopy. The prognosis should also be more guarded in such cases. Thus far in our small series of cases it is evident that the exophytic lesions have a very good prognosis even when they have grown over the laryngeal surfaces, as shown in figure 2. In order to make statistical analysis of carcinoma of the larynx more valid it is suggested that some note should be taken of this different growth pattern.

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Viral Eye Infections—Magruder, Valdivieso and Wilson

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Physicians on Stamps—Observer

(*Continued from page 113*)

1961—Republic of China Commemorative: Sun-Yat-Sen is the first physician to appear on two postage issues of the United States (see issue of 1942). This stamp marks the fiftieth anniversary of the founding of the Republic of China.

In discussing the above collection with Dr. Mitchell, your Observer learned that after the Civil War revenue stamps were used on so-called patent medicines. Likenesses of physicians appeared on some of these stamps; however, in the majority of instances they bore the images of lay "medicine men" responsible for the nostrums. Following the crusade of the late Dr. Harvey W. Wiley, who, incidentally, was a member of the Medical Society of the District of Columbia, to eliminate the fraudulent medicines, the revenue stamps disappeared from the scene.

T. W.

Report on Meeting of AMA House of Delegates

(*Continued from page 116*)

tional costs involved represent funds wisely expended. . . . Your committee concurs heartily with the Board of Trustees that the House of Delegates meeting and the scientific clinical session should be held at the same time and place, and it is recommended that the present practice be continued without change."

The House of Delegates has seen no reason to change its opinion up to the present. Incidentally, the clinical meetings through 1964 are scheduled as follows: 1962—Los Angeles, California; 1963—Portland, Oregon; 1964—Miami Beach, Florida.

In closing, your delegates are proud to inform you that one of our members, Hugh H. Hussey, appearing as Chairman of the Board of Trustees of the Association for the first time, conducted himself and presented the reports of the Board in a masterly fashion. Of course, those of us who know Hugh were not surprised but we were pleased by the praise he received.

Respectfully submitted,
RAYMOND T. HOLDEN, M.D., *Delegate*
KARL C. CORLEY, M.D., *Delegate*

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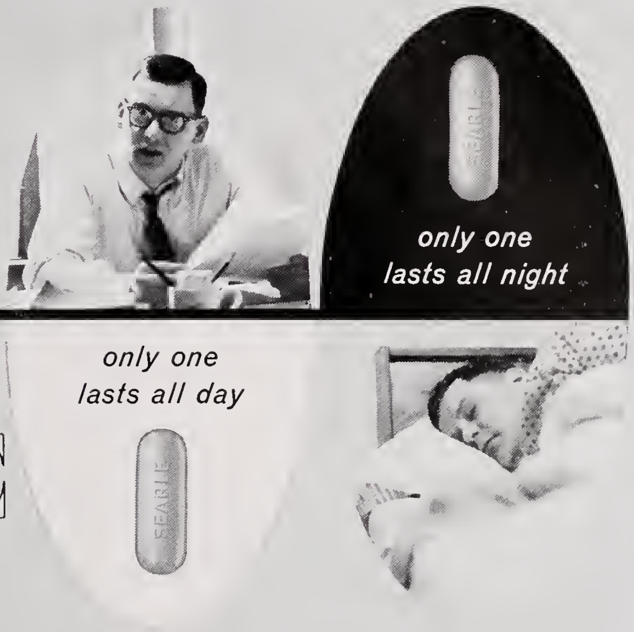

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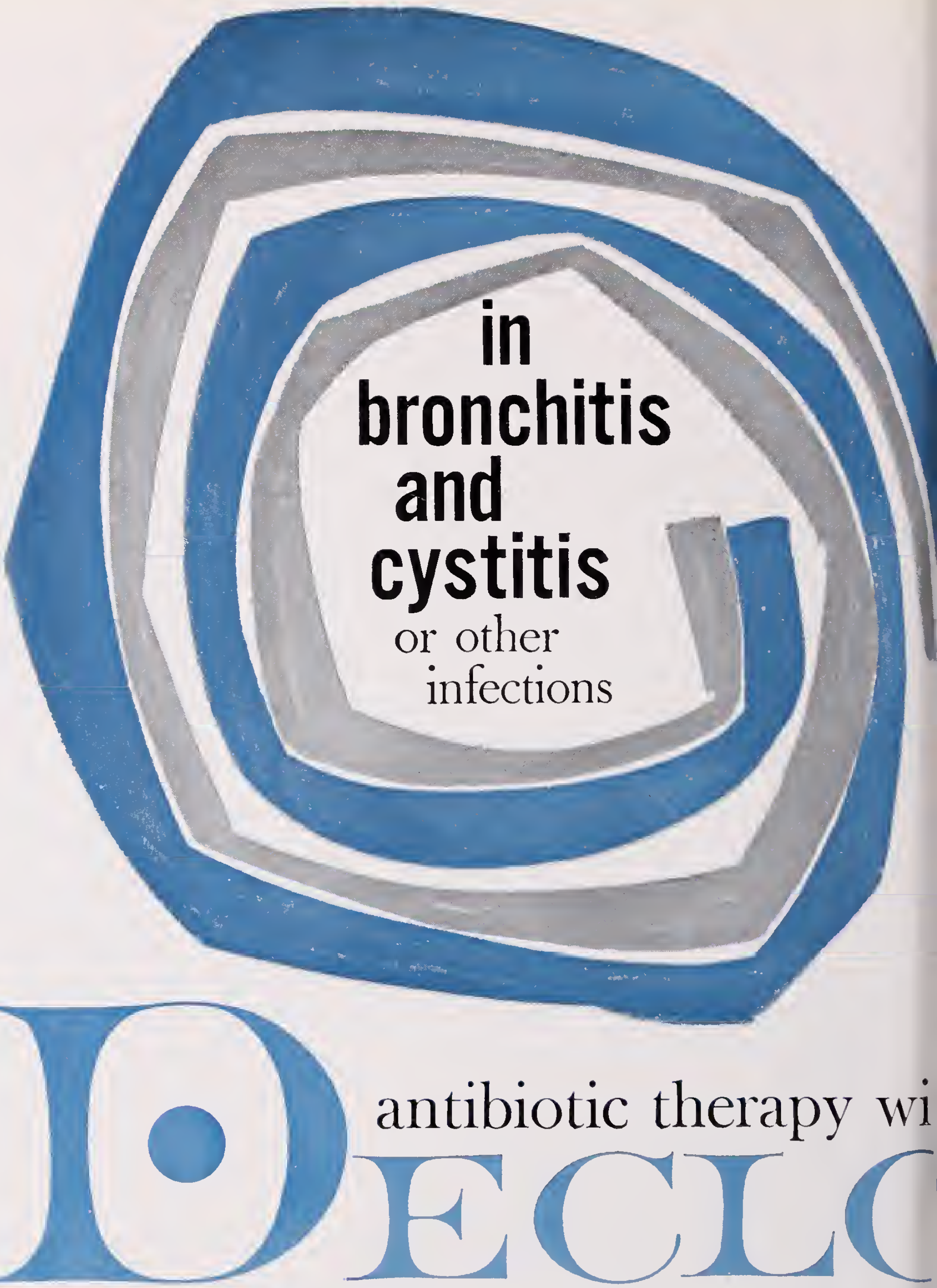

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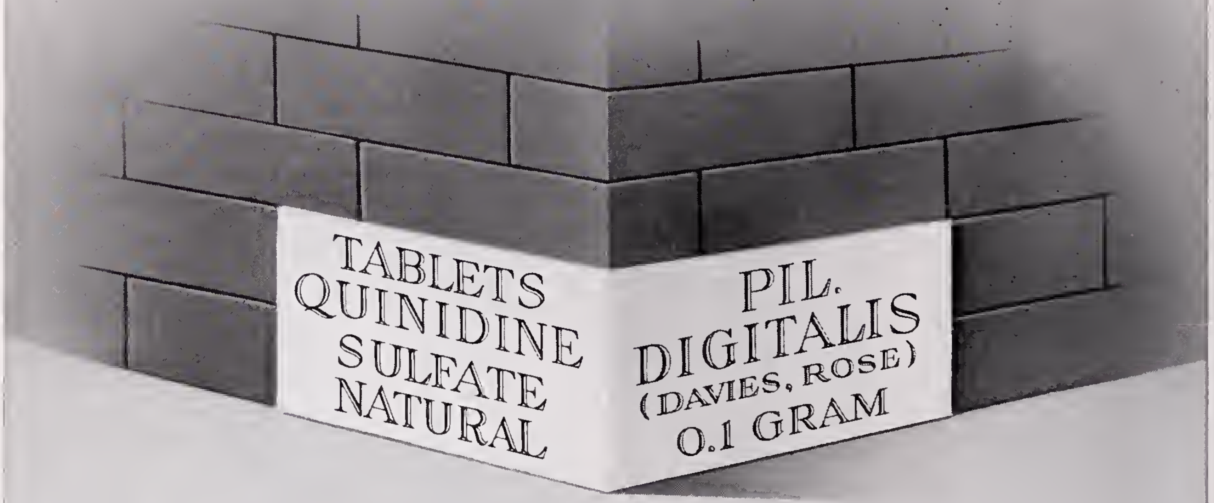

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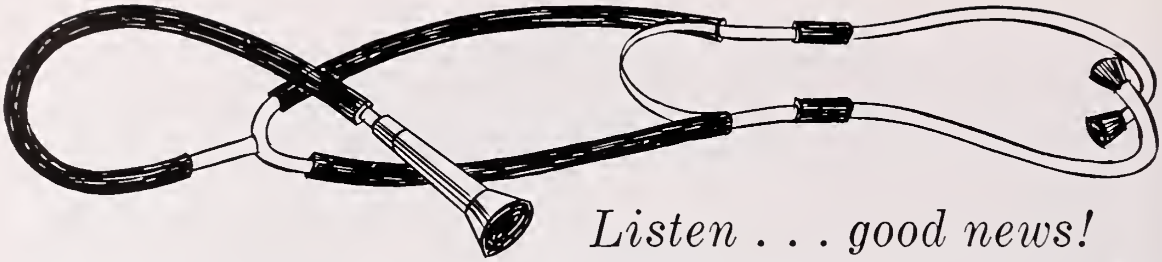

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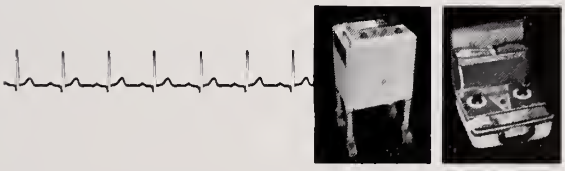

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[1] Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

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arthritis “It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . .”[3]
3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases “Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult.”[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] “Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes.”[9]
8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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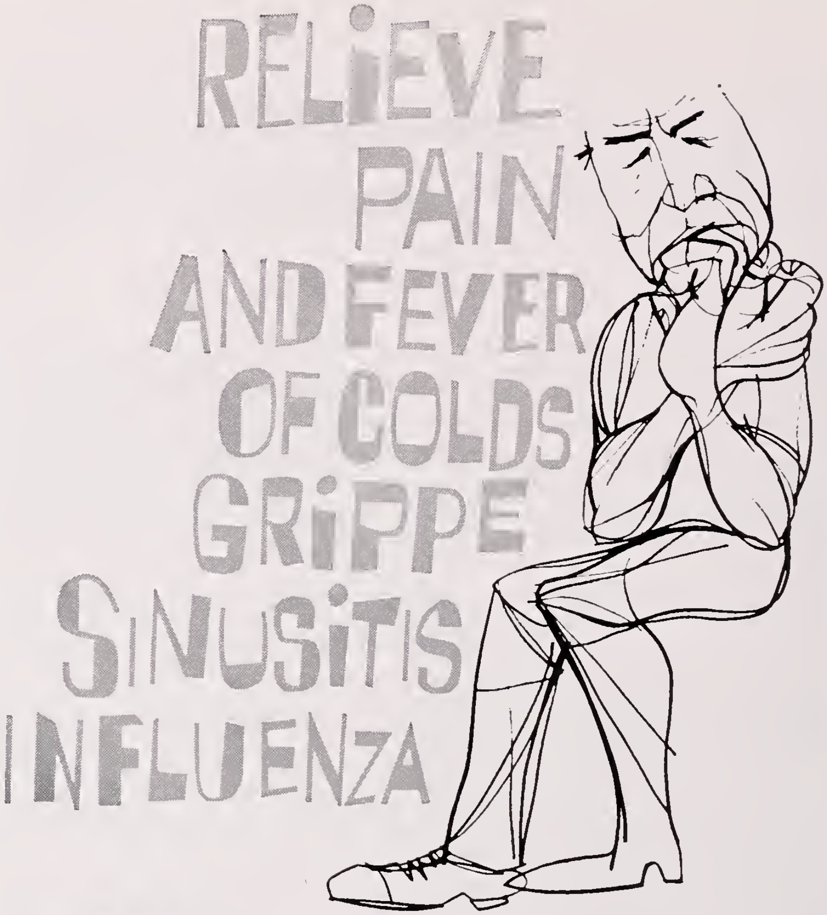

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Recent bibliography: 1. A.M.A. Council on Drugs, New and Nonofficial Drugs 1961, Philadelphia, Lippincott, 1961, pp. 142-147. **2.** Beckman, H.: The Year Book of Drug Therapy, Chicago, Yr. Bk. Pub., 1961, p. 271. **3.** Eastman, N. J., and Hellman, L. M.: Williams Obstetrics, ed. 12, New York, Appleton-Century-Crofts, 1961, pp. 845-1035. **4.** Keefer, C. S., in Modell, W.: Drugs of Choice 1960-1961, St. Louis, Mosby, 1960, pp. 141, 146. 147. **5.** Huang, N. N.: J. Pediat. 59:512, 1961. **6.** Smith, R. C. F.: Brit. J. Clin. Practice 15:345, 1961. **7.** Asay, L. D., and Koch, R.: New England J. Med. 262:1062, 1960. **8.** Berry, D. G., et al.: Lancet 1:137, 1960. **9.** Osol, A., et al.: The Dispensatory of the United States of America, ed. 25, Philadelphia, Lippincott, 1960, pp. 953, 1556. **10.** Adams, A. R. D.: Brit. M. J. 1:1639, 1960. **11.** Jung, R. C., and Carrera, G. M.: Dis. Colon & Rectum 3:313, 1960. **12.** De Lamater, J. N.: Am. J. Gastroenterol. 34:130, 1960. **13.** Stewart, W. H., et al., in Kelley, V. C.: Brenneman-McQuarrie-Kelley Practice of Pediatrics, Maryland, Prior, 1960, vol. II, chap. 5, p. 19. **14.** Wellman, W. E., and Herrell, W. E., in Kelley, V. C.: Brenneman-McQuarrie-Kelley Practice of Pediatrics, Maryland, Prior, 1960, vol. I, chap. 44, p. 13. **15.** Wenckert, A., and Robertson, B.: Acta chir. scandinav. 120:79, 1960. **16.** Alstead, S.: Dilling's Clinical Pharmacology, ed. 20, London, Cassell, 1960, p. 462. **17.** Grover, F. W.: Texas J. Med. 57:355, 1961. **18.** Gardiner, W. P., and Gomila, R. R., Jr.: Scientific Exhibit, Venereal Disease Seminar, U.S. Public Health Service, Feb. 28-Mar. 3, 1961. **19.** Jacques, A. A., and Fuchs, V. H.: J. Louisiana M. Soc. 113:200, 1961. **20.** Nathan, L. A.: Scientific Exhibit, 15th Clinical Meet., A.M.A., Denver, Col., Nov. 26-30, 1961. **21.** Ullman, A.: Delaware M. J. 32:97, 1960. **22.** Lamphier, T. A.: Scientific Exhibit, New York State M. Soc. Meet., New York, May 7-13, 1960. **23.** Freier, A.: Paper presented at Michigan Soc. Obst. & Gynec., Detroit, May 3, 1961. **24.** Logan, K. M.: Scientific Exhibit, Ann. Meet., Ohio Acad. Gen. Practice, Cincinnati, Sept. 13-14, 1961. **25.** Altemeier, W. A., and Wulsin, J. H. (A.M.A. Council on Drugs Report): J.A.M.A. 173:527, 1960. **26.** Krol, W. J.: J. Abdom. Surg. 3:78, 1961. **27.** Potempa, J.: Med. Klin. 56:352, 1961.

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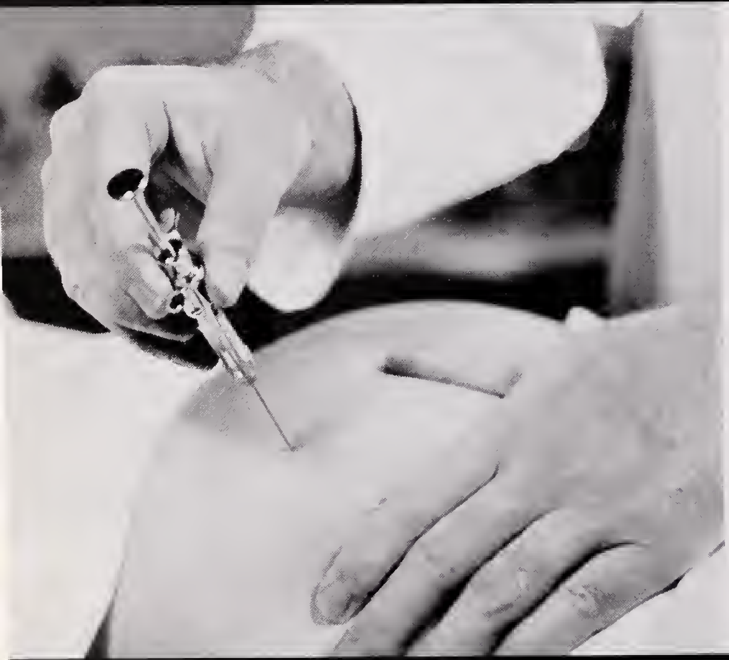

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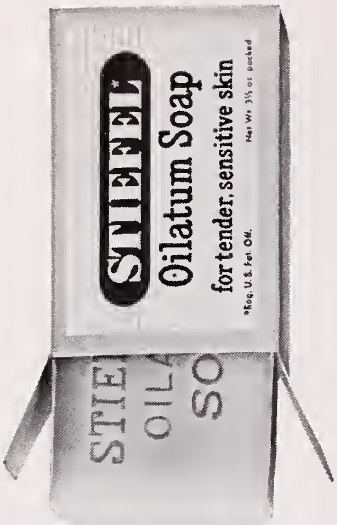
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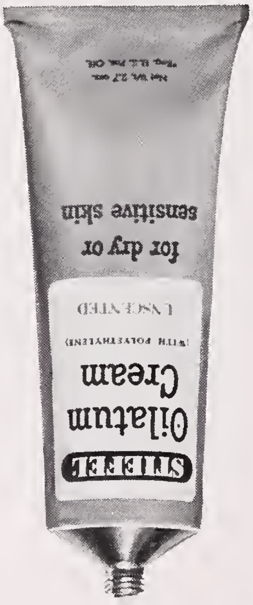
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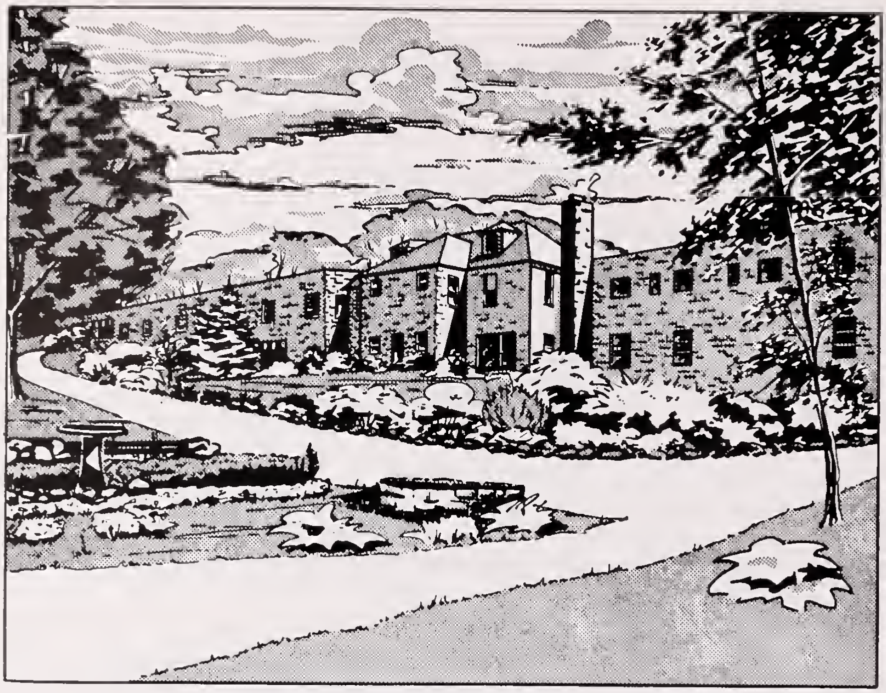

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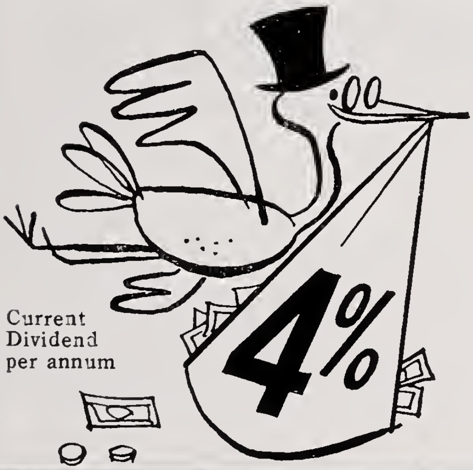

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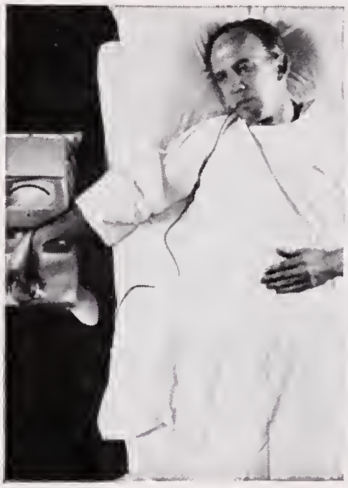

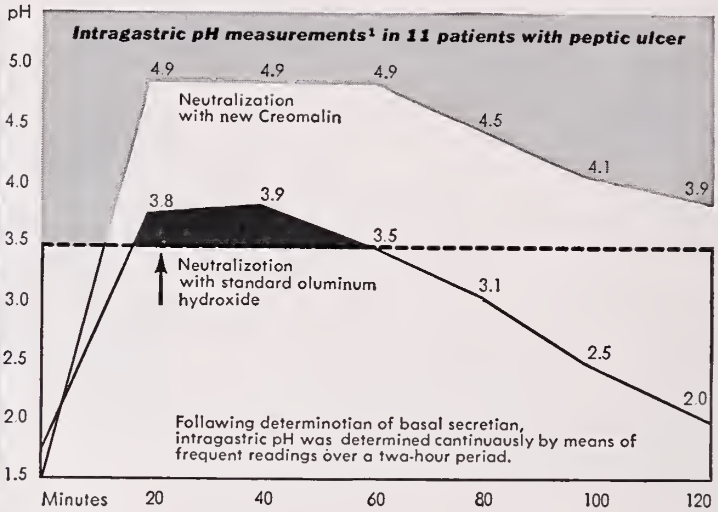
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pH
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
4.9
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4.9
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›atient treated with Librium feels dif-
ent, even after a few doses. He appears
ferent to his family and to his physi-
n. Different, in the sense of a change
m the previous state of anxiety and
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Librium was first observed in a series
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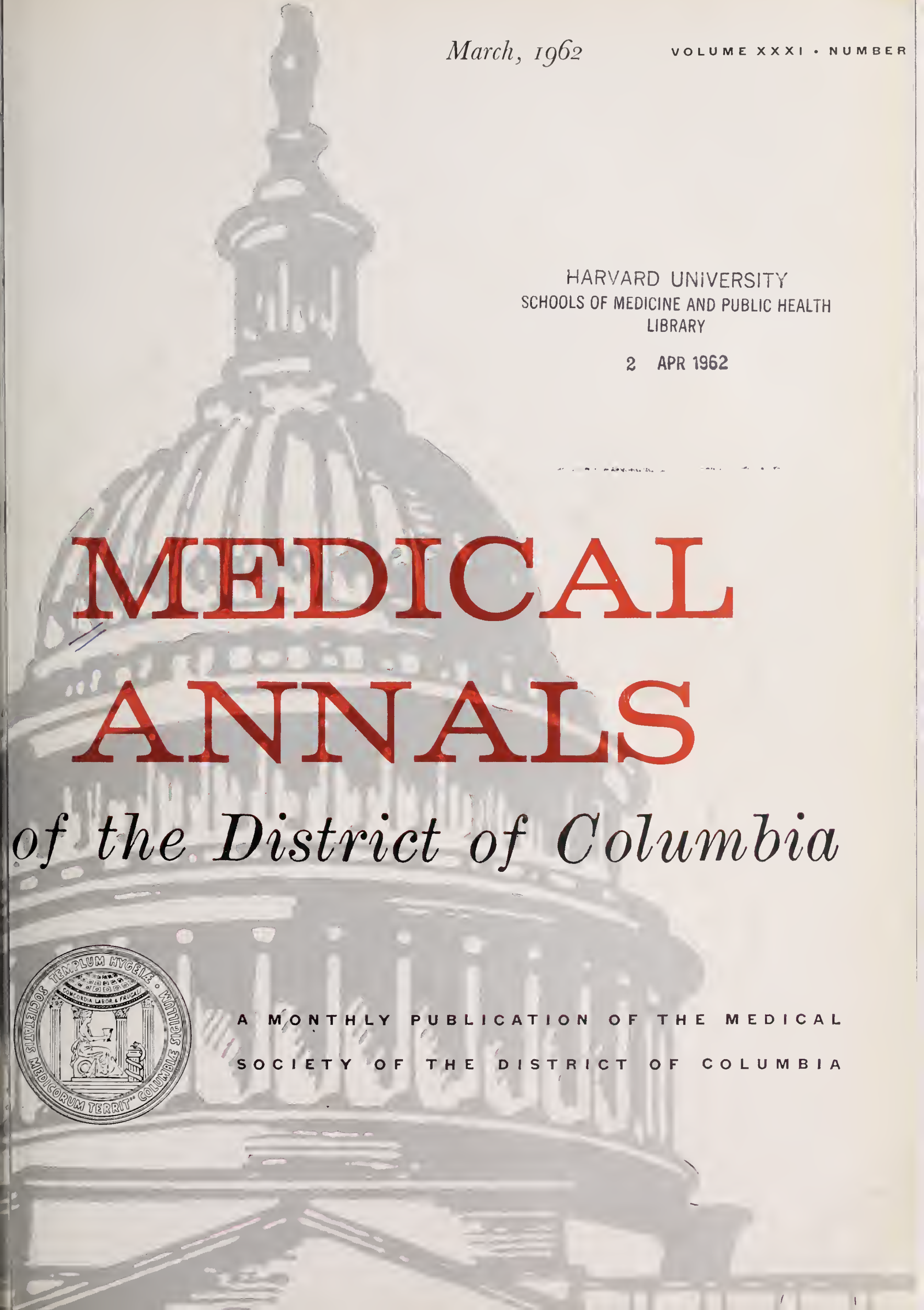

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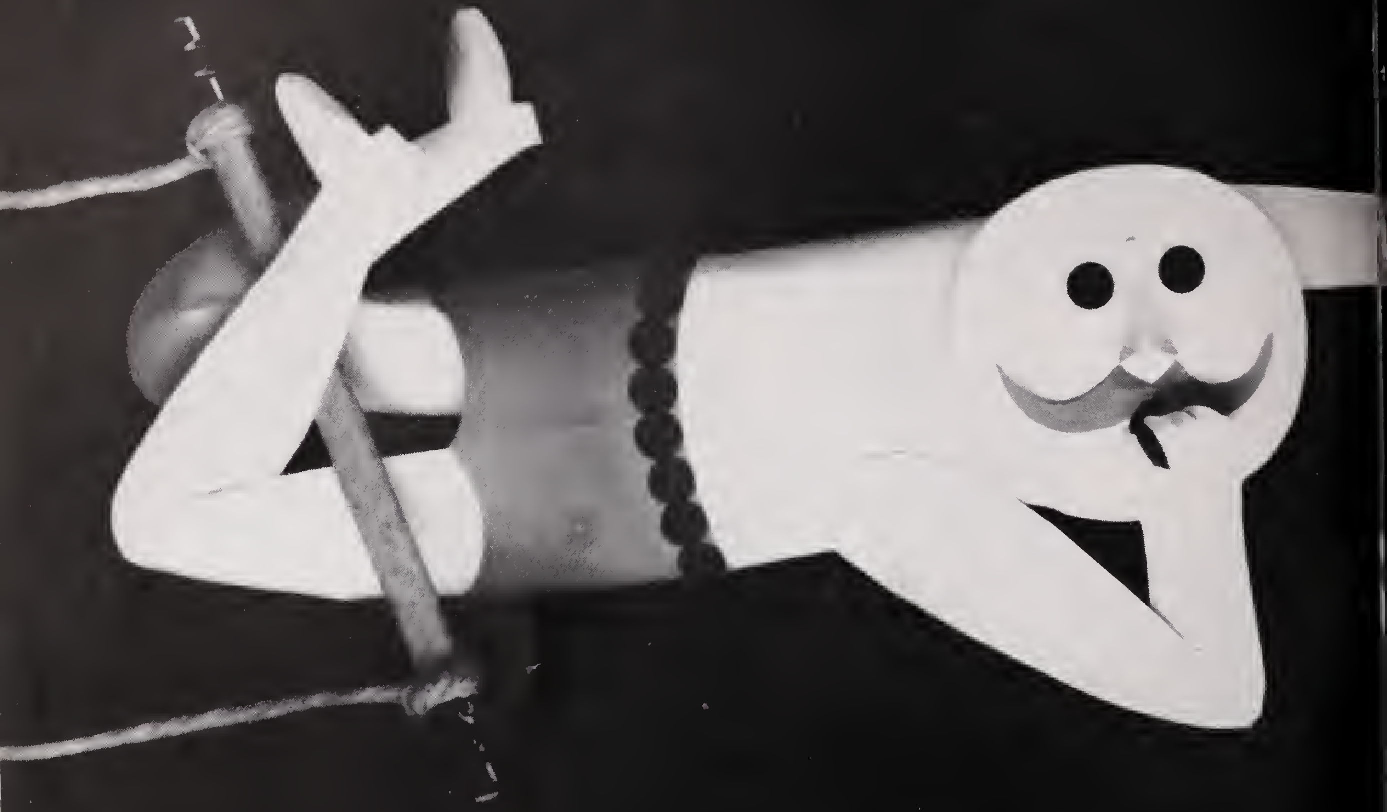
of the District of Columbia

A MONTHLY PUBLICATION OF THE MEDICAL
SOCIETY OF THE DISTRICT OF COLUMBIA



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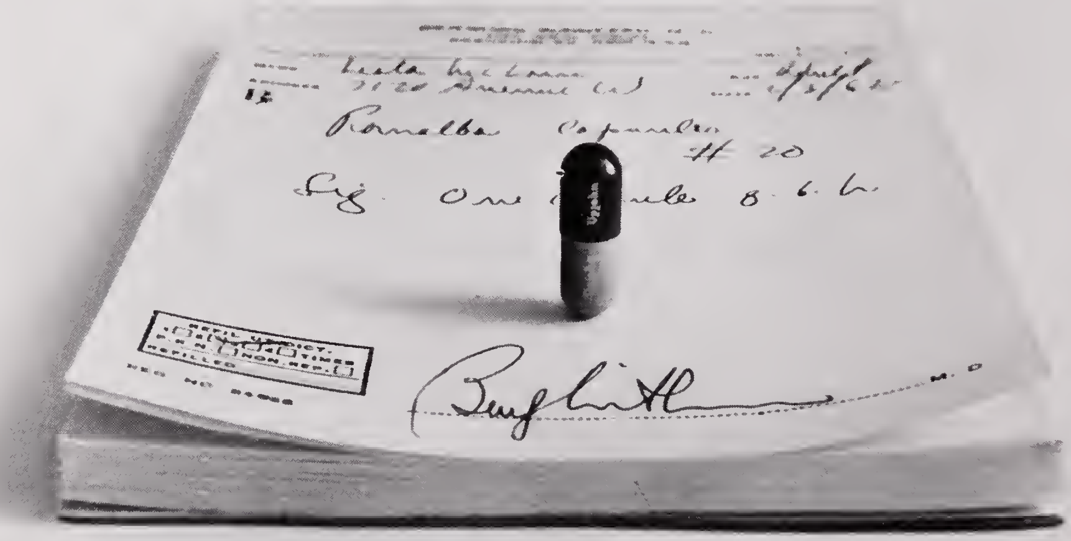

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Leukopenia has occurred occasionally in patients receiving novobiocin. Rarely, other blood dyscrasias including anemia, pancytopenia, agranulocytosis and thrombocytopenia have been reported. In a recent report it was observed that three times as many newborn infants receiving novobiocin developed jaundice as control infants. For this reason, administration of novobiocin to newborn and young infants is not recommended, unless indication is extremely urgent because of serious infections not susceptible to other antibacterial agents.

The development of jaundice has also been reported in older individuals receiving Albamycin. Serious liver damage has developed in a few patients, which was more likely related to the underlying disease than to therapy with novobiocin. Although reports such as the above are rare, discontinuance of novobiocin is indicated if jaundice develops. If continued therapy appears essential because of a serious infection due to microorganisms resistant to other antibacterial agents, liver function tests and blood studies should be performed frequently, and therapy with novobiocin stopped if necessary.

In a certain few patients treated with this agent, a yellow pigment has been found in the plasma. The nature of this pigment has not been defined. There is evidence that it may be a metabolic by-product of novobiocin, since it has been reported to be extractable from the plasma (pH 7 to 8.1) with chloroform while bilirubin is not. These properties have been employed to differentiate the yellow pigment due to the metabolic by-product of novobiocin and bilirubin. However, recent reports indicate that this method of differentiation may be unreliable.

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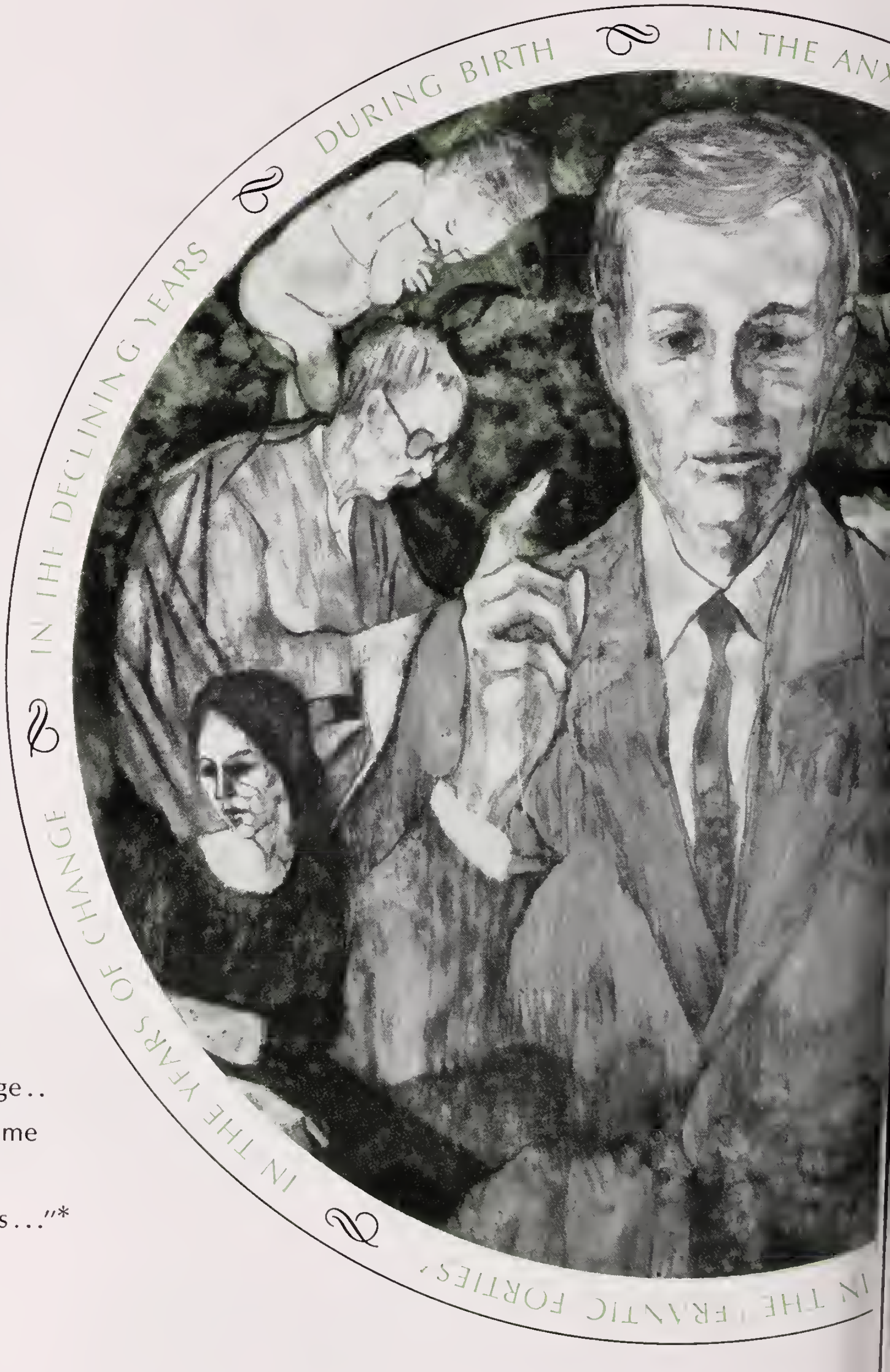
IN THE AN
DURING BIRTH
IN THE DECLINING YEARS
IN THE YEARS OF CHANGE
IN THE FRANTIC FORTIES,
IN THE

"All the world's a stage..
And one man in his time
plays many parts,
His acts being seven ages..."*

As You Like It, Act II, Sc. 7

IN THE EMOTIONAL TEENS
IN PREGNANCY AND

through all seven ages of man

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1. King, J. C.: Int. Rec. Med. 172:669, 1959. 2. Weiner, L. J., and Bockman, A. A.: Sci. Exhibit, A.M.A., Ann. Meet., New York City, June 26-30, 1961.

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PRECAUTIONS: Drowsiness may occur in some patients. The potentiating action of hydroxyzine should be taken into account when the drug is used in conjunction with central nervous system depressants. Do not exceed 1 cc. per minute I.V. Do not give over 100 mg. per dose I.V. Parenteral therapy is usually for 24-48 hours, except when, in the judgment of the physician, longer-term therapy by this route is desirable.

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April 4–6: Medical and Chirurgical Faculty of the State of Maryland. The Alcazar, Baltimore. Address: Mr. John Sargeant, *Executive Secretary*, 1211 Cathedral Street, Baltimore 1, Md.

April 4–7: U. S. Public Health Service Clinical Society. Clinical Center, National Institutes of Health, Bethesda, Md. Address: Dr. John J. Walsh, National President, U. S. Public Health Service Clinical Society, U.S.P.H.S. Hospital, New Orleans 18, La.

April 6–8: American Society of Internal Medicine. Benjamin Franklin Hotel, Philadelphia. Address: Mr. Tod Bates, *Executive Director*, 350 Post Street, San Francisco 8, Calif.

April 9–12: American Academy of General Practice. Las Vegas, Nevada. Address: Mr. Mac F. Cahal, *Executive Director*, Volker Blvd. at Brookside, Kansas City 12, Mo.

April 9–12: Aerospace Medical Association. Atlantic City. Address: Dr. William J. Kennard, *Executive Vice President*, Washington National Airport, Washington 1, D. C.

April 9–13: American College of Physicians. Bellevue-Stratford Hotel, Philadelphia. Address: Dr. Edward C. Rosenow, Jr., *Executive Director*, 4200 Pine Street, Philadelphia 4, Pa.

April 13–15: American Association for Cancer Research. Chalfonte-Haddon Hall, Atlantic City, N. J. Address: Dr. Hugh J. Creech, *Secretary*, c/o The Institute for Cancer Research, Fox Chase, Philadelphia 11, Pa.

April 16–18: American College of Surgeons, Sectional Meeting. Sheraton-Park Hotel, Washington. Address: Dr. William E. Adams, Secretary, 40 East Erie Street, Chicago 11, Ill.; Dr. Robert J. Coffey, Local Chairman, Committee on Arrangements, Georgetown University Hospital, Washington 7, D. C.

April 23–28: American Academy of Neurology. Statler-Hilton Hotel, New York. Address: Mr. Thomas D. Swedien, *Executive Secretary*, 4307 East 50th Street, Minneapolis 17, Minn.

April 26–28: American Gastroenterological Association. Hotel Roosevelt, New York. Address: Dr. Wade Volwiler, *Executive Secretary*, c/o Department of Medicine, University of Washington, Seattle 5, Wash.

April 29: American Federation for Clinical Research. Haddon Hall, Atlantic City, N. J. Address: Mr. James E. Bryan, *Executive Secretary*, 250 West 57th Street, New York 19, N. Y.

April 30–May 2: American Academy of Pediatrics. Hotel Statler-Hilton, New York. Address: Dr. E. H. Christopherson, *Executive Director*, 1801 Hinman Avenue, Evanston, Ill.

May 9–13: Student American Medical Association. Mayflower Hotel, Washington. Address: Mr. Russell F. Staudacher, Executive Director, 430 North Michigan Avenue, Chicago 11, Ill.

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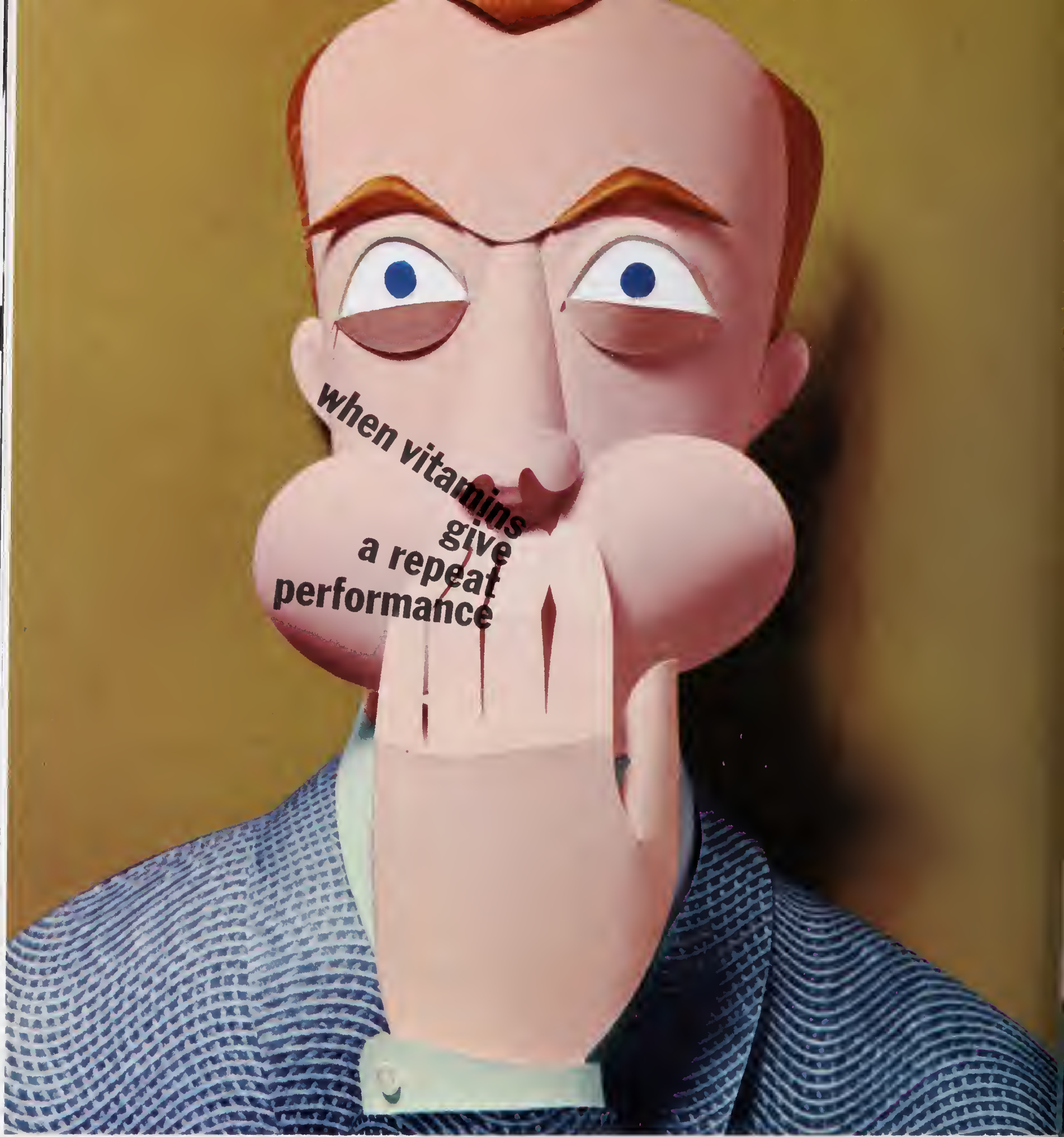
Molybdenum (as sodium molybdate)	0.2 mg.



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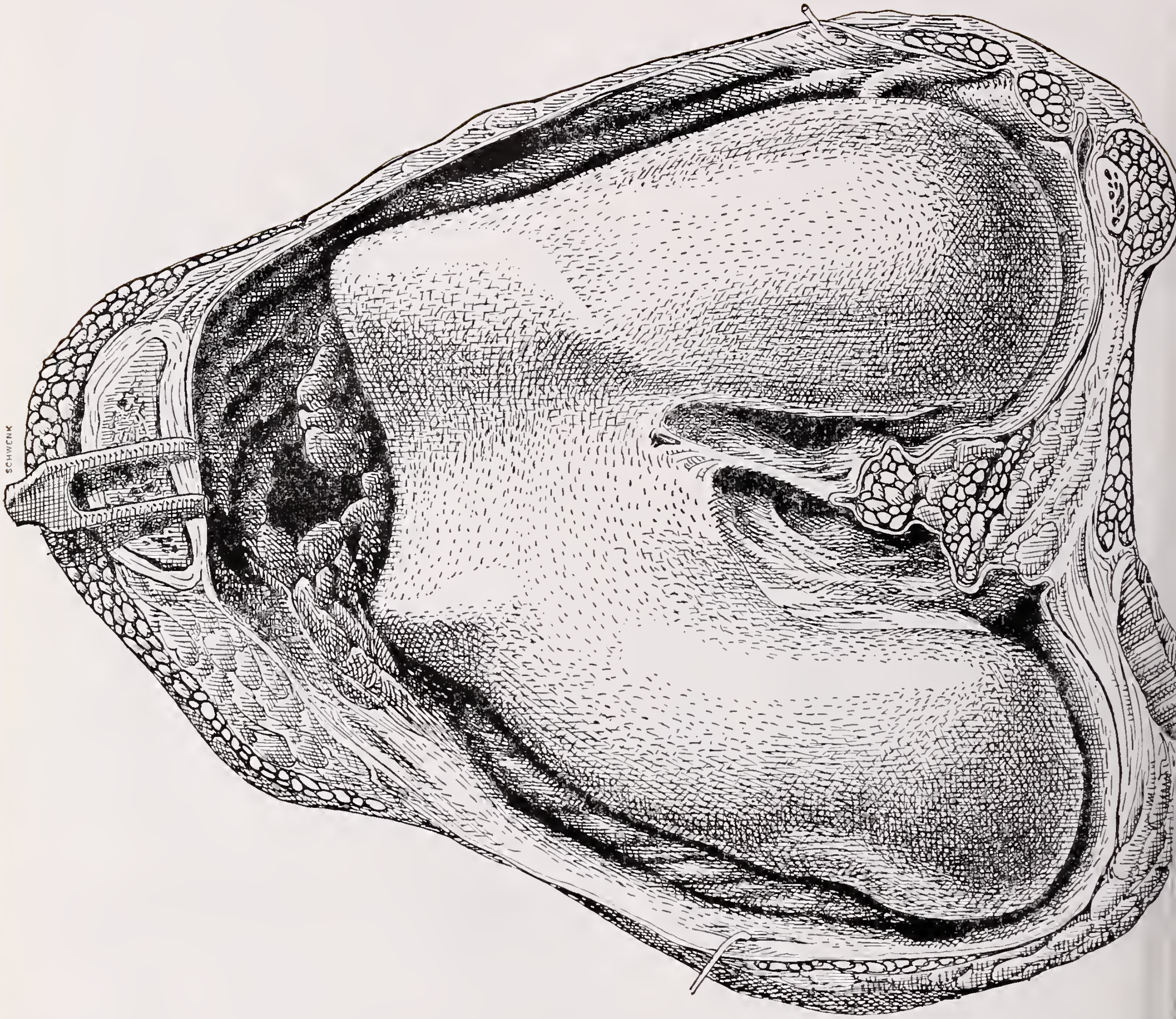

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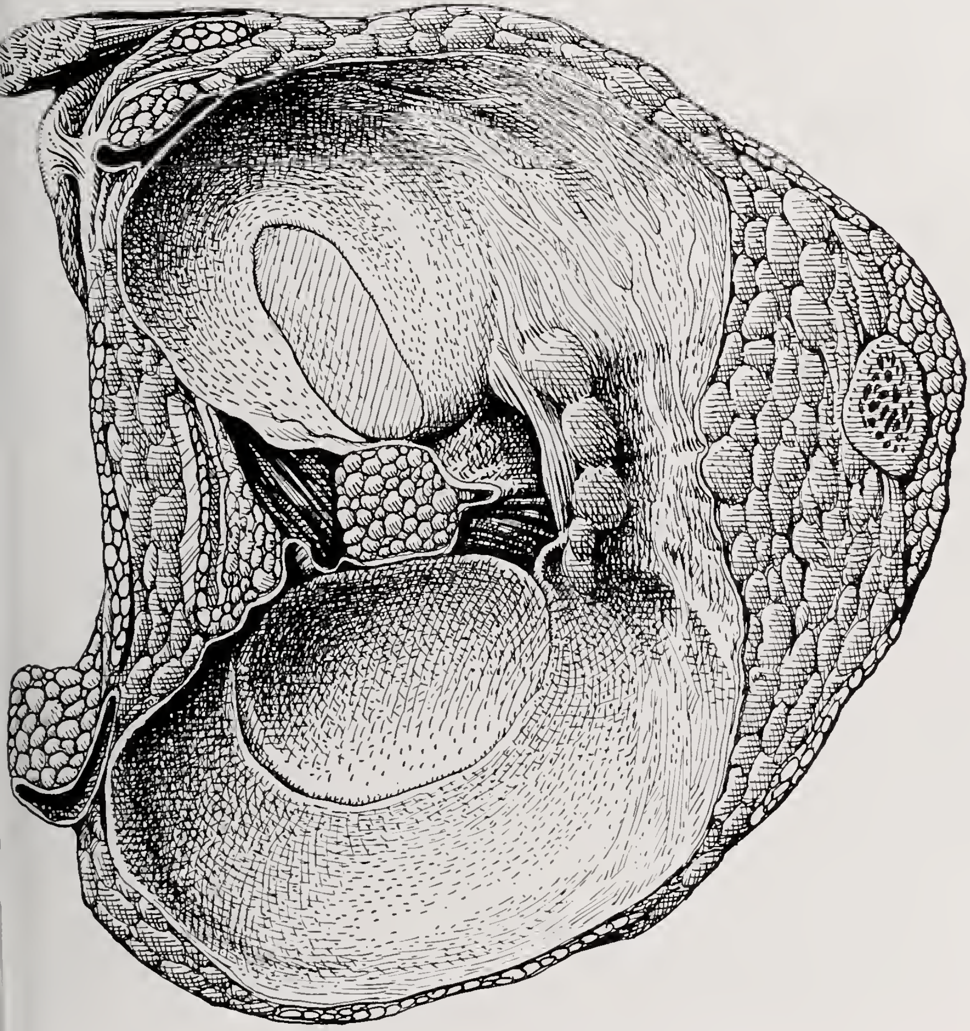

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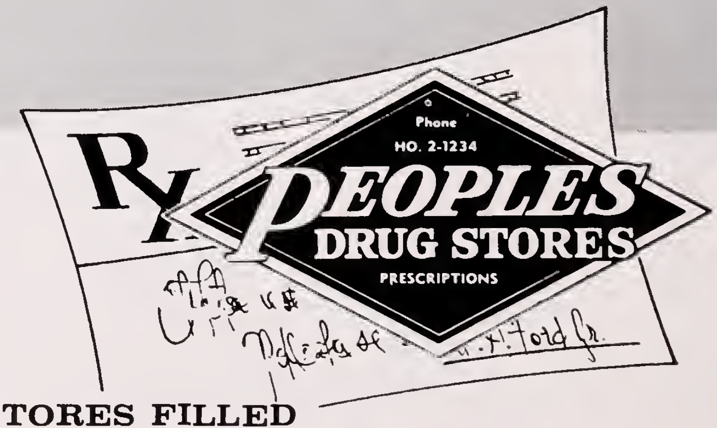
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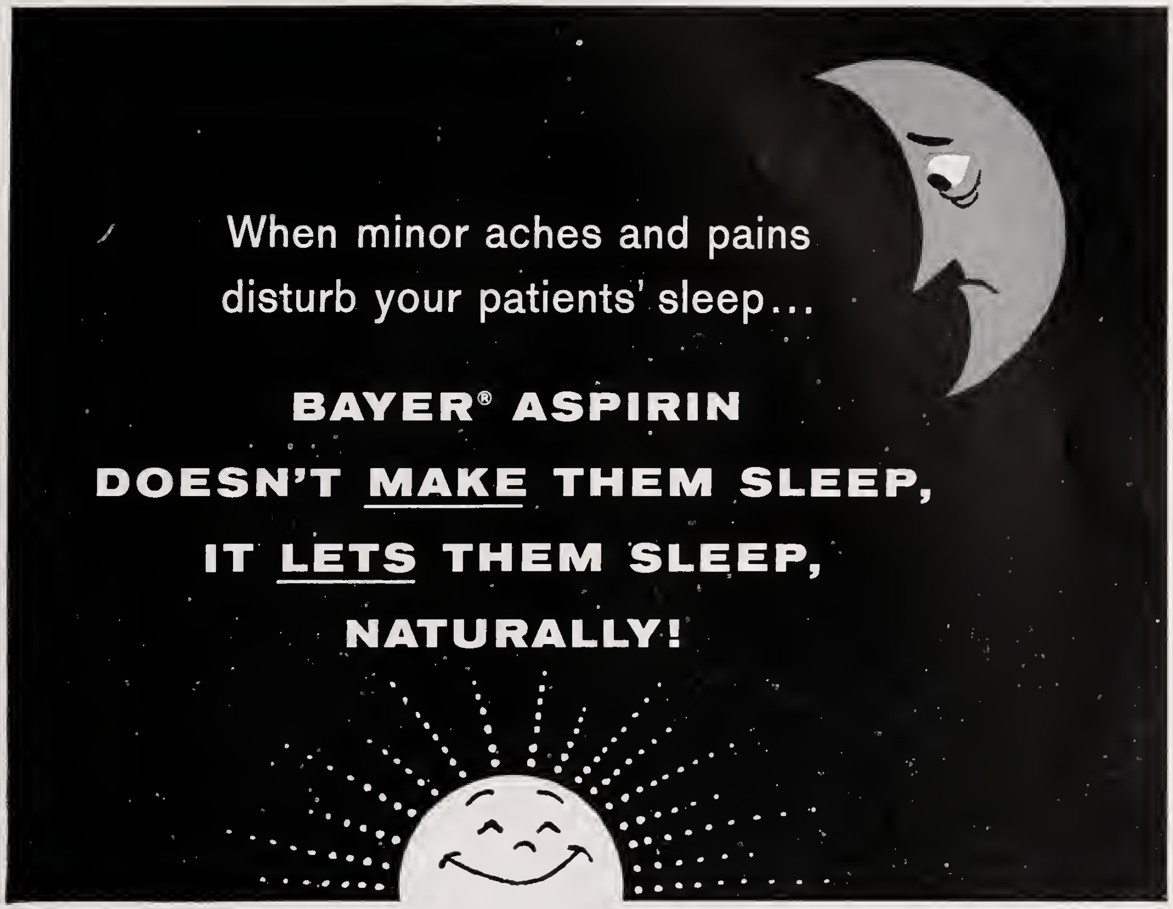

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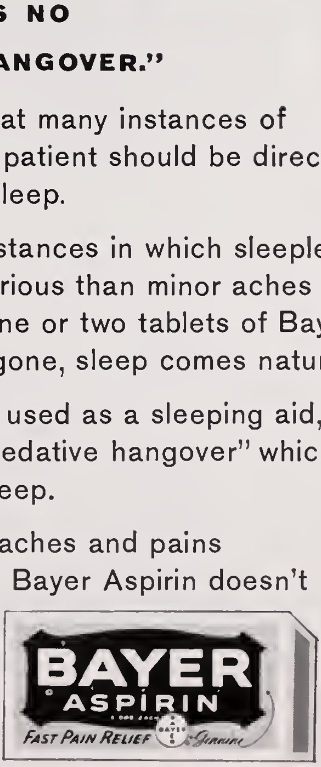

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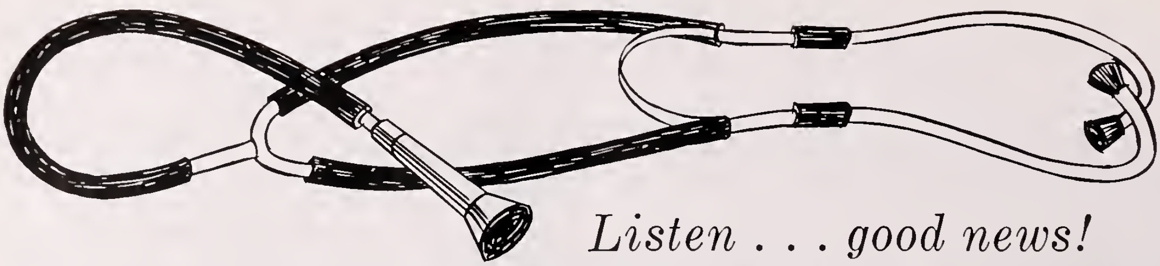

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The Role of Cholesterol in the Body*†

ARTHUR GROLLMAN, M.D., F.A.C.P.
Professor and Chairman of the Department of Experimental Medicine, The University of Texas Southwestern Medical School, Dallas

So much attention has been directed during recent years to the possible role of cholesterol in the pathogenesis of atherosclerosis that this lipid has come to be considered a baneful invader of the organism which is to be avoided as far as possible. As a matter of fact, however, cholesterol constitutes an essential and vital part of every cell in the body. It is not only an important constituent of the cell membrane but of the intracellular membranes as well, and thus constitutes a structural element of the cell which, as a consequence of its unique solubility properties, plays a fundamental role in the control of cell permeability. As in the case of other cellular constituents, it is also present in the blood stream which serves to transport it between the various parts of the body. In addition, it is concerned in the transport of other lipids of which it forms a constituent.

Although cholesterol plays an important part in the transport of the fats and resembles these in its physical properties, it is not a true fat but belongs to the group of compounds designated as steroids. However, since its analysis is relatively easier than that of the other lipid constituents of the blood stream, it has been used as a measure of the lipid pattern. Such an assumption need not necessarily be true, nor need the concentration of cholesterol present in the blood serum necessarily reflect its concentration in the tissues.

In order to evaluate the significance of the serum cholesterol in pathologic states one must consider the normal role of cholesterol in the body, the dietary as well as the other factors which affect the level of cholesterol in the serum, the relation of this level to its metabolic function in the organism, the transport of cholesterol between the intestinal tract, blood stream and tissues, and the role generally which cholesterol plays in the animal economy. Unfortunately, many of these relationships remain to be elucidated. The present paper will be concerned with the normal role of cholesterol metabolism in the animal economy.

Sources of Cholesterol

Since cholesterol is a constituent of all animal cells it will be ingested as part of any protein of animal origin. Plants contain a related product which is not absorbed from the intestinal tract. In addition to this exogenous dietary source of cholesterol, which will vary in amount depending upon the source of the food, the body can synthesize cholesterol from acetyl coenzyme A, which is a basic metabolic product derived from carbohydrate, protein and fat. The organism is thus not dependent upon an exogenous source of its vital cholesterol, but can synthesize it not only in the liver but in practically all tissues of the body. Animals maintained on a cholesterol-free diet thrive normally since they are capable of synthesizing cholesterol from the diet. In the case of the fowl atherosclerotic plaques continue to be formed despite the absence of cholesterol in the diet.[1]

---

* Delivered at the 29th Annual Scientific Assembly of the Medical Society of the District of Columbia in Washington, D. C., November 27, 1961.

† The work of the author cited in this paper was carried out with the aid of grants (H-4124) from the National Institutes of Health, Public Health Service, United States Department of Health, Education, and Welfare.

In the case of many body constituents derivable from endogenous as well as exogenous sources, homeostatic mechanisms usually operate to maintain body levels constant. This will only be possible if the amount of the material in question which is derived exogenously does not exceed the requirements of the organism and its capacity to rid itself of any excess which is ingested. In the case of cholesterol much attention has been directed to the effect of varying the cholesterol intake on the serum cholesterol level. Unfortunately, many factors are concerned in determining this apparently simple relationship, particularly since variations in cholesterol intake involve many other variables which affect the serum cholesterol level. Only by maintaining an otherwise constant diet can one determine the effect of variations in cholesterol intake on the level of the serum cholesterol and its relation to such pathologic processes as atherosclerosis. Most of the extant studies in this field have failed to appreciate the many variables involved and have drawn conclusions which are entirely unjustified.

METABOLISM OF CHOLESTEROL

As already indicated, cholesterol serves vital useful functions in the organism, as well as being a constituent of the atheromatous plaques in which it is deposited with calcium salts and other lipids. In addition to its role as a structural constituent of the cellular membranes, its presence in the corneum of the skin renders the latter impermeable to water and reduces evaporation from the surface of the body. In the liver, cholesterol esters are converted to cholic acid which is conjugated to form bile salts essential for digestion. Cholesterol esters are also the precursors of the steroid hormones elaborated by the adrenal and reproductive organs. These organs are capable, however, of synthesizing their hormones from other locally produced steroids.

All cells are apparently able to synthesize cholesterol, but it has not been established to what extent these cells utilize cholesterol synthesized locally and to what extent this is derived from the diet. The arterial wall, in which particular interest lies, can synthesize cholesterol locally so that it need not therefore be dependent upon an elevated serum cholesterol level for the source of the cholesterol deposited within its atheromatous plaques. This would account for the presence of such deposits observed in patients with a low or normal serum cholesterol level.

Although cholesterol is unrelated to fats chemically, it is associated with the latter intimately, resembling the fats in solubility, combining with fatty acids to form cholesterol esters, and varying in its concentration in the serum with that of phospholipids which are concerned in the metabolism of fatty acids. For this reason one cannot consider the concentration of cholesterol as an isolated entity but must consider its role in the body in relation to lipid metabolism generally as well as to other factors which offhand seem only remotely related to cholesterol metabolism.

In the organism, cholesterol is present as the free compound and in the form of esters formed by its combination with fatty acids. These cholesterol esters have a peculiar predilection for highly unsaturated fatty acids including the same essential acids which are such important constituents of the phosphatides. Although both cholesterol and its esters are present in the serum, only the free cholesterol is a component of all tissues, the esters not being found in most cells. Only in the intestinal mucosa, liver, adrenal cortex and genital organs are the esters found, presumably in the process of absorption, in the case of the intestinal mucosa, and as precursors of the gonadal and adrenocortical steroid hormones and bile acids in the case of the other organs mentioned. Apparently esterification of cholesterol is a step in the metabolic processes by which the steroids are elaborated.

Cholesterol is freely synthesized in the body from the 2-carbon acetyl groups derived from the metabolism of both carbohydrate and fat as well as in the liver from 4-carbon compounds, acetoacetic acid and acetaldehyde. Animals are therefore not compelled to derive it from dietary sources. Cholesterol esters can also be synthesized freely, the chief sites of their production being the liver. The intestinal mucosa also participates in this process as do also the endocrine glands. Although the side chain of cholesterol can be broken down in the body, the cyclopentanoperhydrophenanthrene ring cannot and must be excreted in this form.[1]

The cholesterol which is available for absorption from the gut is derived not only from that present in the food but also from that delivered into the duodenum in the bile. This biliary cholesterol is entirely in the free form. The absorption of cholesterol is entirely dependent upon the presence of the bile acids, especially cholic acid in the intestine. As long as bile enters the intestine free cholesterol can be absorbed even in the absence of pancreatic juice, although with diminished efficiency. On the other hand, pancreatic juice appears to be essential to the esterification of cholesterol. Like other lipids, cholesterol when absorbed is delivered entirely into the lymphatics and regardless of whether it is administered in the free state or as an ester, a large and relatively uniform proportion is always found esterified in the lymph. Cholesterol in the intestinal mucosa is almost entirely free so that esterification is associated with the discharge of cholesterol from the intestinal cells into the lymph. The cholesterol of the bile is synthesized in the liver and secreted into the bile whence it can be reabsorbed from the intestine. It constitutes an important source of cholesterol. Although the cholic acid of the bile is derived from cholesterol, this is an irreversible process; cholic acid cannot be converted to cholesterol.

The liver is concerned in many aspects of cholesterol metabolism. It synthesizes free cholesterol for discharge into the blood and into the bile; forms cholesterol esters for the blood and for the production of steroids; forms the bile acids which promote the absorption of cholesterol from the gut; and converts cholesterol esters to cholic acid and excretes the latter into the bile from which it may be reabsorbed and which when present in excessive quantities in the serum will produce hypercholesterolemia by delaying the removal of cholesterol from the blood. All of these processes are well integrated so that the amounts of free and esterified cholesterol in the body remain remarkably constant, although their distribution may vary. The concentration of cholesterol in the serum, however, is no index of its concentration in the liver or the body as a whole.

Little work has been done on the relation of the blood content of cholesterol to its concentration in various tissues. In the chick, Lobova[2] found that hypercholesterolemia induced by feeding a high cholesterol diet increased the concentration of cholesterol in the liver from 1.7 per cent in the controls to 12.8 per cent in the treated animals but induced no change in the cholesterol content of the brain. This increased concentration of cholesterol in the tissues rapidly disappeared within 20 days after cessation of cholesterol administration. In the rat, feeding of excessive amounts of cholesterol leads to the formation of nodules in the lungs and accumulation of stainable lipids in the reticuloendothelial system.[3]

The absence of any relationship between the level of the serum cholesterol and the formation of atherosclerotic plaques in experimental animals is illustrated in the rabbit. In this species the induction of diabetes or the injection of Triton,® although increasing the cholesterol level of the blood, prevents the formation of such plaques normally induced by the feeding of cholesterol. In the fowl, likewise, similar discordance between serum cholesterol levels and atherosclerosis has been demonstrated to occur under several experimental conditions.

SPECIES VARIATIONS IN CHOLESTEROL METABOLISM

Many of the current concepts of cholesterol metabolism and its role in the pathogenesis of atherosclerosis are based on animal experiments, particularly on the rat, fowl and dog. Although many of the implications of such studies may be applicable to the human, the metabolism of these species differs from that of man to such a degree that the observations are not necessarily generally applicable. Unfortunately, this obvious limitation of the experimental data has often been overlooked. Thus the classical experiment of Anitschew on the atherogenic effect of feeding cholesterol to the rabbit cannot be transposed to the human, since the rabbit and certain other Herbivora manifest a peculiar intolerance for both proteins and lipids and react to cholesterol and other dietary constituents in a manner quite unlike such Omnivora as man.

In the rat, the subject of much experimentation in this field, it has been demonstrated that the major portion of the body cholesterol is synthesized in the liver and that this hepatic source of cholesterol is depressed when the cholesterol intake in the diet is increased. Applied to the human these observations would suggest that a reduction in cholesterol intake should have little effect on the level of the serum cholesterol. Conversely, a great increase in the cholesterol intake should induce an inappreciable increase in the level of the blood cholesterol, since the liver, which is the chief source of the endogenously derived cholesterol, will compensate by synthesizing less of this material. The effect of the level of the dietary cholesterol will thus be relatively unimportant. Relatively enormous amounts of cholesterol (up to 20 grams per day) have in fact been given to humans and proportionately greater amounts to many animals without affecting the serum lipids. The rabbit as already indicated is an exception to this general rule.

Cox, Taylor and their collaborators[4] have presented evidence to indicate that in the human, unlike the rat, the liver contributes proportionately less to total cholesterol synthesis than in the rat. If, as is generally believed, it is only the liver which responds to an increase in dietary cholesterol and other tissues continue to form cholesterol at their usual rate, one might anticipate a greater effect of dietary cholesterol on the serum cholesterol level in man as compared to the rat.

Another striking difference in the effect of dietary factors in different animal species on the cholesterol level is demonstrated in the experiments of Edwards.[5] This investigator observed that in mice and rats the addition of cholic acid to the diet resulted in an elevation in the serum cholesterol. This effect was counteracted by several bile acids, including lithocholic acid. In the chick, on the other hand, the addition of cholic acid did not cause a rise in serum cholesterol as in mice and rats, whereas the addition of lithocholic acid to the diet caused a marked increase in serum cholesterol. Obviously, there is a marked species difference in the reaction of these animals to dietary measures.

It is apparent from these examples that experimental observations on other animals cannot be applied indiscriminately to the human and that conclusions based on the former must be critically evaluated and repeated directly on man before their acceptance as of clinical significance.

SERUM LEVELS OF CHOLESTEROL AND ITS ESTERS

Much attention is given clinically to the level of the serum cholesterol. The analytical procedures used in the determination of cholesterol in the average clinical laboratory are subject to considerable error as is evidenced by the divergence in the results obtained by different analysts on the same patient and the variations obtained from day to day, despite the constancy of the serum cholesterol over long periods of time in healthy subjects. These errors result from the inadequate extraction of the serum by organic solvents, the vagaries of the Liebermann-Burchard reaction, commonly used in the determinations and other sources. The apparent decline in serum cholesterol which follows the administration of certain drugs may in fact be in part deceptive due to interference by other precursors of cholesterol.

There is a wide range in variation of the serum cholesterol in otherwise apparently normal persons. Although a range of 123 to 265 mg. per cent is usually stated as the normal range, Peters[1] found variations of 107 to 320 in normal subjects. It is thus extremely difficult to evaluate the significance of a given determination or to judge as to its normality. Only such values as are beyond the extremes of normal variation can one definitely designate as being in an abnormal range.

In general, the cholesterol level of the blood remains relatively constant in any given individual over long periods of time if good health is maintained. However, there is a general tendency for the cholesterol level to rise with age.

The interrelationship of the three major lipid constituents of serum, namely, the free cholesterol, the cholesterol esters, and the phospholipids, is relatively uniform in the population at large. The ratio of free to total cholesterol does not depart from the normal limits of 0.24 to 0.33, regardless of the level of the total cholesterol.

The relation of the lipid phosphorus to free cholesterol may also be defined precisely but is not a constant, being related according to the equation:

$$\text{Lipid P (in mg. per cent)} = 0.1060 \times \text{free cholesterol} + 3.7$$

The impression given in the literature of the existence of a constant phospholipid:cholesterol ratio is erroneous, but there is a linear relationship between the two. This, however, has no independent significance, since it varies with the concentrations of cholesterol and phospholipids. Since the lipid phosphorus appears to be correlated with the free rather than the total cholesterol, the ratio of lipid phosphorus to total cholesterol is disturbed whenever the partition of cholesterol is distorted. The apparent close correlation of the lipid phosphorus with the total cholesterol in normal subjects is merely a consequence of the constancy of the ratio of free to total cholesterol.[1]

The constancy of the interrelationships of the lipid components of serum of normal individuals has led to the use of total cholesterol as a measure of the lipids in general. This, however, is obviously not justifiable, since disturbances in these relationships are often of greater diagnostic and therapeutic significance than the absolute concentrations of cholesterol or of any other lipid component. Moreover, since the range of variation of these concentrations in any group is large, the evaluation of a given value in an individual is difficult. Thus, a person whose normal serum cholesterol is 150 mg. per cent will have developed hypercholesterolemia when his cholesterol reaches a level of 250 mg. per cent, despite the fact that the latter is still within the normal range of variation.

The general pattern of the serum lipids does not change in a uniform manner in disease. In myxedema and in the nephrotic syndrome phospholipids and both fractions of cholesterol rise proportionately, but in myxedema the level of the neutral fat remains normal, while in the nephrotic syndrome it is elevated. In all the serious disorders of the liver the ratios of free to total cholesterol and of lipid phosphorus to total cholesterol rise to an extent which depends upon the severity and duration of the disorder. In early hepatitis cholesterol and phospholipids fall with no consistent change in the neutral fat. In advanced cirrhosis cholesterol and phospholipids also fall, whereas in obstructive jaundice all the lipids rise. In one form of essential hyperlipemia in which the serum is lactescent, both cholesterol and phospholipids are usually although not invariably elevated, whereas in another form of the same condition in which the serum remains limpid, cholesterol and phospholipid are elevated but the neutral fat is not.

In the postabsorptive state practically all the lipids in the plasma are present in the form of lipoproteins, which consist of a combination of protein with triglycerides, phospholipids and cholesterol. These lipoproteins are classified according to their density or according to their electrophoretic mobility as: α-lipoproteins, which are of high density (containing low concentrations of neutral fat) and migrate with the α-globulins; and β-lipoproteins, which are of low density (containing a relatively high concentration of lipid as compared to protein) and migrate with the β-globulins. This combination of the lipids with protein renders them soluble in the aqueous medium of the plasma and thus more readily transferable to the tissues. The pattern of the lipoproteins varies in different species and in man is influenced by age, sex, and disease. Masculinity, age and ischemic heart disease favor a higher proportion of cholesterol in the β-lipoprotein fraction.[6]

Certain diseases affect the cholesterol level of the plasma. The effect of thyroid function on lipid metabolism and on the cholesterol level of the blood has long been recognized. Diabetes likewise is associated with the appearance of a high cholesterol level in the plasma which indeed may at times be of as great prognostic significance as the blood sugar level. Renal insufficiency is also associated with a rise in the cholesterol content of the blood.

DIETARY FACTORS AFFECTING SERUM CHOLESTEROL LEVELS

Numerous experiments have been performed in order to determine the effect of variations in diet on the serum cholesterol level in man. As already indicated, such experiments are valid only if they are controlled and limited to a single variable. In general it has been concluded that variations in cholesterol intake do not play a prominent role in determining the serum cholesterol level. The form in which the cholesterol is administered appears to influence its effects. Thus, as shown by Bronte-Stewart,[6] whereas a given amount of cholesterol added to the diet will not affect the serum cholesterol level, the same amount of cholesterol in the form of eggs will cause an appreciable increase in blood cholesterol. This difference apparently is dependent on differences in the rate of absorption of cholesterol from different sources.

A much more important factor determining the level of cholesterol in the blood is the fat content of the diet. A high fat intake may result in an increase in the cholesterol level of the plasma of 40 to 50 mg. per cent as a result of the increased deposition of fat in the liver which increases the rate of fat metabolism and provides an increased source of acetyl coenzyme A, which, as we have seen, is the source of endogenous cholesterol. This factor is thus much more important than the cholesterol content of the diet in determining the serum cholesterol level.

The nature of the fat ingested also serves to affect the cholesterol level of the plasma. Highly unsaturated fatty acids tend to decrease slightly to moderately the serum cholesterol level. As a consequence, it is the nature of the high-fat diet rather than its actual fat content which determines the serum cholesterol level. This has led to the emphasis on the desirability of unsaturated fatty acids in the diet and the avoidance of diets high in saturated fats.

Normally the synthesis of cholesterol and the excretion of its end-product, cholic acid, are so closely coördinated with its absorption that the total amount in the body and its concentration in the serum are maintained at normal levels. An excessive amount of cholesterol is absorbed, and synthesis of cholesterol by the liver and its excretion into the bile diminishes, while the biliary excretion of cholic acid increases. The concentration of cholesterol in the serum is thus altered only if there is some disorder of the transfer system. There is no consistency in the effects of reducing diets upon serum cholesterol in obesity. These differences may arise from the widely variable character of the diets used and from the fact that the subjects may not all be normal with respect to other features than adiposity. Diets which are sufficiently low in calories to cause a rapid loss of weight are likely to be unbalanced and deficient in certain essentials.

Although most attention has been directed to other lipids as controlling the level of cholesterol in the blood, factors (dietary as well as others) undoubtedly also play a role in this regulation. Dahl[7] and others have shown a correlation between a high salt intake and hypercholesterolemia on both man and the rat. To what degree metabolic variations generally affect the cholesterol level remains unclear.

Friedman and Rosenman[8] have presented evidence that the cholesterol level of the blood is altered in response to emotional stresses and indicate that such factors may be more important at times in inducing hypercholesterolemia than dietary alterations. It is apparent that cholesterol metabolism is intimately associated with so many functions of the animal economy that many seemingly unrelated factors may be concerned in its day-to-day variations and role in the organism.

CONCLUSION

Cholesterol plays a vital role in the animal economy. Factors controlling its level in the blood and its metabolic role in the organism are only partially understood. A knowledge of the normal course of cholesterol metabolism is essential for evaluating its role in such pathologic processes as atherosclerosis. The relationship between the two processes is obviously far more complex than many have assumed.

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The Pharmacology of Progesterone[*†]

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IN THIS PRESENTATION, by necessity, many of the pharmacologic effects of progesterone will be indicated without extensive discussion, and some will perforce be omitted. In addition to presenting some of the more recent findings on the effects of progesterone in animals and in man, we will discuss in more detail some of the work done at the Worcester Foundation on the control of the menstrual cycle by oral progestins.

METABOLIC EFFECTS

Recently Landau and Lugibihl[1] have reported the very pertinent observation that progesterone injections into men and women produced catabolic and natruretic effects. The catabolic effect was reflected in the increased excretion of urea nitrogen without any concomitant increase in the excretion of amino nitrogen. The authors believe that the effect of progesterone is primarily on the liver, influencing breakdown and synthesis of protein. The increased sodium excretion following progesterone administration is very interesting, especially with regard to its effect on aldosterone secretion. These effects of injected progesterone are mimicked by endogenous progesterone during pregnancy, and even, to a much lesser extent, during the luteal phase of the menstrual cycle. The ineffectiveness of injected aldosterone during pregnancy may now be explained on the basis of the increased progesterone production. Another metabolic effect of progesterone is the stimulation of galactose metabolism in patients suffering from congenital galactosemia.[2]

THE REPRODUCTIVE TRACT

The best known effects of progesterone are on the uterus and other accessory sexual structures. In mammary glands progesterone affects primarily alveolar growth, without too much effect on duct growth. With respect to the uterus, there are numerous data. Many of the enzymes found in the endometrium and which are stimulated by estrogen are antagonized by progesterone. Numerous studies have been conducted on the oxidative system enzymes, glucuronidase and the phosphatases. In fact, Jaszmann[3] has proposed that the increase in ratio of acid to alkaline phosphatase in the human endometrium be utilized as a test for progestational activity. We have been concerned primarily with the enzyme carbonic anhydrase. The activity of this enzyme can be influenced by various hormones,[4-7] and some researchers believe that this enzyme may be important in the implantation process.[8] However, the dynamics of carbonic anhydrase vary from species to species, and this casts doubt as to its actual importance in uterine reproductive processes. We have some values for the human endometrium, but the data are too scattered to indicate any significant hormonal trends.

The transformation of endometrium from the

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proliferative type to the secretory type normally encountered following ovulation has been duplicated in human castrates by estrogen and progesterone therapy. Withdrawal bleeding occurs following cessation of progestin therapy.[9, 10]

The endometrial phases of progesterone pharmacology can be produced by a variety of progestins, but the myometrial aspects are much more difficult to duplicate. The effects of progesterone on the myometrium have been examined by Csapo and his co-workers.[11] They have advanced the "progesterone-block" theory to explain uterine inertia during pregnancy. Progesterone causes hyperpolarization of muscle membrane, thus rendering a block to conduction of electrical impulses which in turn blocks synchronous uterine contractions. Many steroids, including pregnanediol, can produce membrane hyperpolarization in vitro, but we know them to be inactive in vivo. Duplication of critical in vitro experiments in vivo has not been successful. Experiments with labeled progesterone indicate that the failure may lie in inadequate concentrations of progesterone in the myometrium. Incomplete and unconfirmed experiments of Hendrics and of Bengtsson[11] on women do indicate that progesterone introduced locally into, or close to, the myometrium acts differently than when introduced systemically.

The question of progesterone therapy for treatment of recurrent abortion is not completely solved. Goldzieher and Benigno[12] have evaluated the various treatments statistically and have concluded that in cases of recurrent abortion with concomitant low urinary pregnanediol levels progesterone therapy produced a statistically significant increase in salvage rates. With respect to the progestational 19-norsteroids, the picture is more confusing. Although reports have appeared concerning their efficacy, the results are doubtful because of inadequate controls or improper selection of patients.

Presently there is a great amount of interest in the use of progestins in controlling fertility and infertility. Kistner[13] and Rock and coworkers[14, 15] have reported that synthetic progestins may be utilized in the treatment of amenorrhea, dysmenorrhea and endometriosis. It has also been stated that in infertile women with normal menstrual cycles and with no obvious causes of infertility the substitution of the natural cycles by several artificial cycles has eventuated in a number of normal pregnancies. No detrimental effects of progestin therapy were observed in women treated with Enovid® for several consecutive months.

The subject of fertility control by oral contraceptives has been reviewed thoroughly by Pincus, Rock and Garcia.[16-19] The historical background of this problem goes back to the observation that conception does not generally occur during pregnancy, and to the observations of Makepeace et al[20] and of Pincus and Chang[21] that in the rabbit coitus-induced ovulation can be inhibited by progesterone. Considerable degree of ovulation inhibition was attained in normally cycling women given 300 mg. of progesterone orally daily from day 5 to 25 of the cycle. However, with progesterone alone there was a significant amount of breakthrough bleeding (18 per cent) by day 22, and the length of the cycles was shortened accordingly. Search was undertaken for compounds which would be more active than progesterone. Among the numerous steroids tested, the estrogens and their derivatives, androgens and their derivatives, and progesterone derivatives were not very active inhibitors of ovulation. The 19-norsteroids and 17-hydroxyprogesterone derivatives were considerably more active.[18]

An understanding of the mode of action of ovulation-inhibiting steroids has been enhanced considerably by the studies of Sawyer and Kawakami.[22] They have implanted electrodes into the brains of rabbits, and by studying the EEG responses from several regions of the brain have obtained neural correlates to events occurring during coitus and during pituitary activation. The two EEG patterns have been called the arousal threshold and the after-reaction threshold. The EEG after-reaction observed in the estrous rabbit following mating can be reproduced by electrical stimulation and by injection of certain pituitary hormones. Time factors preclude the possibility that EEG after-reaction represents pituitary activation; it is most probably related to the effect of released hormones on the brain. Only those pituitary hormones which are released following coitus (LH, LTH, oxytocin and vasopressin) and preparations containing luteinizing activity (PMS and HCG) were effective in evoking the EEG after-reaction. Thyrotropin, ACTH, FSH and growth hormone were not effective.

The following observations were made with respect to the effects of progesterone on the two EEG thresholds. Progesterone had a biphasic effect; within four hours after injection into the estrous rabbit both thresholds were lowered, and thereafter the arousal threshold was greatly elevated. The EEG after-reaction could not be obtained even by direct electrical stimulation. Norethynodrel, Norlutin,® and Nilevar® had no effect on the arousal threshold, but the after-reaction threshold was elevated. The lack of interference of these 19-norsteroids on the arousal threshold makes them more desirable than progesterone or Delalutin® for contraceptive purposes.

Our group at the Worcester Foundation has worked primarily on the uses of Enovid as an oral contraceptive. Enovid is composed of 98.5 per cent norethynodrel and 1.5 per cent of the 3-methyl ether of ethinylestradiol. Ethinylestradiol, which is a potent, oral estrogen, has been included for better control of break-through bleeding, and by itself it is an ovulation inhibitor in women, but not in rabbits. Norethynodrel is an ovulation inhibitor in both species. The most probable mode of action of Enovid is via hypothalamic inhibition of the release of the leuteinizing hormone. Experiments on immature rats show that LH inhibition is achieved at much lower dosages than the inhibition of FSH release. The question of direct effect on the ovaries is not settled. Some investigators believe in the direct effect on the ovaries while others believe in hypothalamic inhibition.

Enovid pills are taken from day 5 through 25 of the cycle. Initially the pills contained 10 mg. of active ingredients; however, more recently 5 and 2.5 mg. doses have proven successful. Statistics from human field trials are very encouraging. Results summarized up to 1960 show only one pregnancy in almost 11,000 medication cycles when the pills were taken each day as prescribed. Even this one pregnancy is open to question. As the number of pills missed increases, so does the pregnancy rate. Women who have stopped taking Enovid and have reverted to conventional methods of contraception showed a significant increase in pregnancy rates. When no contraceptive was used, fertility reached or exceeded pre-Enovid medication levels, indicating that Enovid had no deleterious effect on subsequent fertility. The number of primordial follicles in human ovaries was not adversely affected by Enovid therapy.

Since it is known that fertility can be controlled by Enovid, it is worthwhile to examine its effects on the endometrium, on patient reactions, and by various laboratory tests. After three to four days of medication the endometrium resembles the normal three-to-four-day, postovulatory endometrium; from this point, the course of events for the treated cycle is somewhat different. After 11 days of treatment glands are similar to those on the nineteenth day of a normal cycle, then they begin to regress rather rapidly, and after 16 days of medication the endometrium appears predecidual and may be confused with an endometrium in very early pregnancy.

Break-through bleeding has been another problem encountered in patients. As is the case with other complaints, it occurs most frequently during the first cycle of medication. It is more common in patients on the 2.5 and 5.0 mg. per day regimens than in patients on 10.0 mg. per day. On 10 mg. per day break-through bleeding incidence was 2.9 per cent in 12,000 cycles; on 5 mg. it was 7.4 per cent in 7,573 cycles; on 2.5 mg. it was 18.0 per cent in 866 cycles. When break-through bleeding occurs it can be controlled by increasing the dosage.

Some cycles are characterized by the absence of post-medication menstruation. This occurred in less than 2 per cent of all cycles, and when it occurs the patient is advised to resume medication not later than 10 days following the last pill of the previous cycle.

Physical examinations in the West Indies revealed that the thyroid glands are, on the average, slightly enlarged, and the incidence of minimal cervical erosions significantly increased. No other irregularities were observed. Numerous laboratory tests were performed which revealed changes with respect to two factors: (a) a significant increase in PBI and total iodine, and (b) a reduction in urinary 17-hydroxycorticosteroids. Other tests were within normal range. Many of the complaints expressed by the patients are largely psychogenic and occur predominantly during the first cycle of medication.

Recently attention has been drawn to the relation of progestins to the problem of cancer. Our data with respect to Papanicolaou smears are incomplete, but they are suggestive that a greater proportion of smears taken from women on Enovid are in the normal category. Kelley and Baker[23] have reported some success in using progestins in the treatment of metastatic endometrial carcinoma.

There are many unanswered questions with respect to the actual mode of action of ovulation-inhibiting steroids. For example, we do not know the nature of the metabolites of norethynodrel which are the biologically active ovulation suppressants. The search continues for other active steroids that will inhibit ovulation in the hope of uncovering one that will require less frequent administration.

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The Partial Thromboplastin Time (P.T.T.) as a Screening Procedure

Preliminary Report

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MEDICAL INVESTIGATORS have long sought reliable indices which would ensure the discovery of patients who tend to bleed excessively when subjected to surgical procedures. It would be of inestimable value to be able to recognize subtle, though potentially dangerous conditions before they lead to uncontrolled bleeding. This consideration has led to an investigation of the general clinical application of the partial thromboplastin time (P.T.T.). The problem that was posed was: Can we recognize defects in the coagulation mechanism which might otherwise go unobserved until calamitous bleeding is encountered?

The factors which were considered to be important, aside from the reliability of the procedure and its amenability to interpretation were:

1. The procedure should be adaptable to routine use for large numbers of patients. For this purpose it should be relatively simple and fast and the results reproducible.
2. It would be preferable if the procedure were applicable to the discrimination of varieties of coagulation abnormalities after the gross abnormalities were uncovered by a screening-type of procedure.

Many types of blood coagulation and bleeding studies have been tried in the past with variable success. The end-result of our past experience has been the virtual abandonment of laboratory screening systems, placing our major reliance on accurate and adequate historical information, with the added information available from such laboratory evaluations as hematocrit levels. This type of evaluation, although most useful, does not meet many problems, such as the patient who cannot give a reliable history, the patient who has not previously been exposed to major trauma, or the patient who has an acquired bleeding problem not yet manifest.

From the published experience of several investigators it appeared that the P.T.T. might be useful for our primary purpose. This report deals with our preliminary studies with the P.T.T. as a screening procedure in 283 randomly selected individuals with a wide variety of pathologic conditions at the D. C. General Hospital.

The basis for the P.T.T. goes back to two fundamental observations. In 1926 Mills[1] reported that crude cephalin suspensions consistently gave longer clotting times with hemophilic plasma than with normal plasma. In contrast, Quick[2] in 1935 showed that crude whole brain extracts clotted both hemophilic and normal plasma in a similar manner and could not differentiate between the two.

These two statements stimulated the idea that there were different types of thromboplastin, a "complete" variety corresponding to Quick's whole brain and a "partial" variety corresponding to Mills' cephalin extract. The P.T.T., described by Langdell and associates[3] in 1953, was defined as a one-stage clotting test in which the crude cephalin extract of brain was used as thromboplastin.

Various investigators[4-9] have demonstrated an abnormally prolonged P.T.T. in the following pure deficiency states:

Anti-hemophilic globulin (AHG)
Plasma thromboplastin component (PTC)
Labile factor (factor V)
Plasma thromboplastin antecedent (PTA)
Stuart factor
Hageman factor

Only deficiency of factor VII, SPCA (serum prothrombin conversion accelerator), was associated with normal P.T.T.[10]

Rodman et al[9] (1958) described a procedure for preparation of partial thromboplastin, demonstrated its stability, and mentioned that plasma, either citrated or oxalated, could be used for testing, although the citrated plasma was preferable in respect to its stability for testing purposes. They also demonstrated the general usefulness of the procedure in identification of clotting factor deficiencies and the value of modifications of the P.T.T. and mixing procedures in specific identification of deficiency states.

For this study we have followed a modification of Rodman's procedure, identifying the P.T.T. as the clotting time at 37°C at pH 7.2 of a mixture of 0.1 ml. plasma (oxalated) + 0.1 ml. 0.02M $CaCl_2$ + 0.1 ml. 0.3 per cent cephalin extract. (The partial thromboplastin was made available to us through the kindness of Dr. Richard Fenichel and Dr. Heron Singher of the Ortho Research Foundation.) To the plasma was added the cephalin extract followed by the $CaCl_2$. The procedure was timed from the introduction of the $CaCl_2$.

The important details of the materials used are: Plasma—4.5 ml. blood collected into 0.5 ml. oxalate for a 1 in 10 dilution. Partial thromboplastin—extract of bovine brain containing bacteriostatic and stabilizing material at pH 7.2. This material is stable in excess of 9 months at +5°C, 6 to 8 weeks at room temperature, and 3 weeks at 37.5°C.

Prothrombin times were run in parallel with the P.T.T. in all cases. Additional procedures were performed as indicated to elucidate the nature of abnormalities discovered by these procedures and by clinical observations.

A control normal series established a normal mean value of P.T.T. at 82.1 seconds with a range of 52 to 108 seconds and a standard deviation of ±5 seconds.

RESULTS

Testing of partial thromboplastin time on blood samples from 283 randomly selected individuals at the District of Columbia General Hospital revealed the following results:

Total tested	283	
Normal values P.T.T.		269
Prolonged values P.T.T. (>110 seconds)		14 (4.9 per cent)

The prolonged P.T.T. values were investigated by appropriate clinical and laboratory techniques. The patients were found to have the following disorders related to hemostasis and blood coagulation:

	No. Cases
Hemophilia (AHG deficiency)	3
P.T.C. deficiency	1
Multiple deficiency (P.T.C., VII, prothrombin)	1
Acute leukemia	1
Sickle cell crisis	1
Acute traumatic hemorrhage	2
Laennec's cirrhosis	2
Severe malnutrition in childhood	1
Active rheumatoid arthritis	1
Ruptured appendix	1

Relation of P.T.T. and prothrombin times. In four of the 14 instances of prolongation of P.T.T. the prothrombin time was also prolonged. This occurred in 1 case of multiple factor deficiency, 1 case of acute hemorrhage, 1 case of rheumatoid arthritis, and 1 case of ruptured appendix.

In a case of hypofibrinogenemia the prothrombin time was prolonged but the P.T.T. was within the normal range. Another investigator has reported an infinite P.T.T. in a case of congenital hypofibrinogenemia.

Hematologic disorders with normal P.T.T. The following hematologic disorders were associated with a normal P.T.T.:

	No. Cases
Aplastic anemia with thrombocytopenia	2
Hemolytic transfusion reaction	2
Sickle cell crisis	1

Liver disease and P.T.T. In 5 patients with infectious hepatitis with abnormal liver function tests except for normal prothrombin time and/or positive liver biopsy the P.T.T. was within the normal range.

Of 7 patients with a diagnosis of Laennec's cirrhosis with variable liver function tests but with normal prothrombin times, 5 had P.T.T.'s within the normal range. In 2 it was prolonged. There appeared to be no correlation between the degree of hepatic insufficiency as reflected in other chemical studies and the results of the P.T.T. study.

Discussion and Conclusion

This preliminary series of studies to discover hematologic abnormalities which would predispose toward excessive bleeding if surgical intervention were indicated were fruitful in recognizing a prolongation of partial thromboplastin time in 4.9 per cent of 283 patients examined. Frank clotting factor deficiencies were noted in 5 instances (1.7 per cent). The remaining cases with prolonged P.T.T. values included patients in whom bleeding problems were not unlikely. As expected, the P.T.T. determination did not recognize platelet deficiency states.

An evaluation of the P.T.T. determination related to time of storage of oxalated blood revealed artefactual prolongation after 4 hours following venipuncture. Precautions must be maintained to test the oxalated blood within this period of time. Rodman[9] suggested using citrated rather than oxalated blood for better stability.

Based upon these preliminary observations screening of surgical patients prior to operation by the P.T.T. and platelet counts is being undertaken, and correlation with blood loss experience at surgery will be made. This screening evaluation is being considered as an adjunct to a good medical history and physical examination.

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Unsuspected Hazards of Oncolytic Agents[*]

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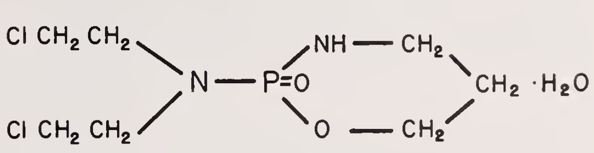
ALMOST EVERY THERAPEUTIC TOOL that is available to the physician is a "double-edged sword." Old "tried and true" medications, as, for example, digitalis and morphine, are not without attendant risks and many of us have encountered adverse effects with some of the newer drugs in our armamentarium. At the present state of knowledge the hope for a chemotherapeutic agent that will attack cancer tissue and not harm normally functioning tissue seems remote. Therefore, a careful evaluation of the new anticancer agents is of utmost importance.

Of the several classes of agents available for clinical cancer chemotherapy, alkylating agents are one of the most widely used. A recently synthesized member of this group, cyclophosphamide (figure 1) is sold under the trade name of Cytoxan® and manifests its toxicity in the usual parameters associated with cancer chemotherapeutic agents, namely, leukopenia, thrombocytopenia, and in some instances hemoglobin depression. This agent, however, also causes alopecia. A possible explanation may be the fact that the hair root is one of the most rapidly proliferating tissues in the body, ranking with the cells of the bone marrow and gastrointestinal mucosa in mitotic activity. The stages of hair growth may be divided into three categories: anagen or growing hair, telogen or resting hair, and catagen hairs, a transition between the growing and the resting phase. It is only the hairs in the growing phase that are affected by chemotherapeutic agents.[1] In a recent study carried out by the Eastern Coöperative Cancer Chemotherapy Group 248 patients received cyclophosphamide, and alopecia was noted in 50 patients (table 1). In 14 instances alopecia totalis resulted. There is a dose response relationship, since most of the cases occurred in patients receiving a total dose of more than 4 Gm.

CYCLOPHOSPHAMIDE



$N_2O_2PCl_2C_7H_{15} \cdot H_2O$

FIG. 1. Structural formula of cyclophosphamide.

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[*] Presented at the First Scientific Symposium of the District of Columbia General Hospital Medical Alumni Association in Washington, D. C., April 28, 1960.

It is important to point out that this is not the only anticancer agent that is responsible for alopecia. X-ray therapy induces abnormalities of hair growth, as does Methotrexate,® a folic acid antagonist.[2] Changes in hair root morphology are detectable before hair loss occurs, and on occasions these changes occur prior to changes in hematologic values. These chemically-induced hair changes are of a temporary nature, and progressive atrophy of the hair root like that seen from X-ray does not occur.

TABLE 1

Side-effects Encountered with Cyclophosphamide in 244 Cases

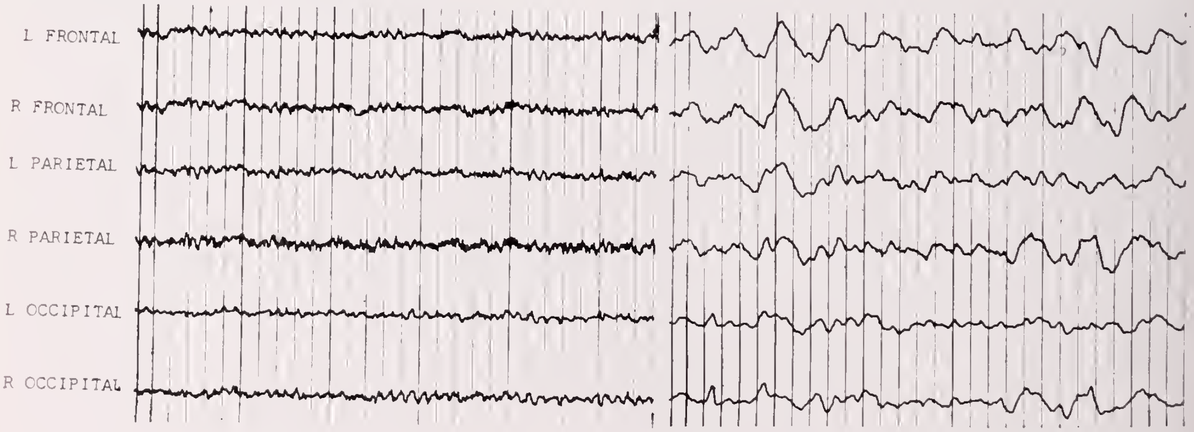
	No. Cases
1. Hematologic	115
a. WBC below 3,000	35
b. WBC below 2,000	42
c. Platelets below 75,000	17
d. Combination b and c	21
2. Gastrointestinal (nausea and vomiting)	80
3. Alopecia (total alopecia, 14 cases)	50

In the recent past a pyrimidine antagonist, 6-azauracil, was synthesized by Welch and associates[3] at Yale University School of Medicine. Promising antileukemia activity was suggested by the results obtained in experimental animal screens. Its relatively low degree of toxicity in small rodents and dogs encouraged clinical trials.[4] During the early stages of clinical investigation a most unexpected and unusual group of toxic manifestations was noted, namely, neurologic abnormalities and somnolence. Table 2 shows a compilation of the neurologic abnormalities seen. Even more striking are the electrocephalographic records that were obtained. Figure 2 shows changes that were recorded in a patient who was receiving 6-azauracil. There were (a) an abolition of the fast rhythms, (b) disorganization of the background activity with moderate amplitude, and (c) appearance of high amplitude delta rhythm. Also, depression or disappearance of the response to photic stimulation occurs.[5] This tracing is similar to the

TABLE 2

Toxic Manifestations of 6-Azauracil

Sign or Symptom	Drug Trials
Lethargy	44
EEG changes	39
Motor nerve abnormalities	30
Psychic changes	21
Hematologic defects	6
Others	5
Convulsive seizures	3
Jaundice	1
Nausea	2
Vomiting	1



Before therapy

32nd day of drug therapy (3 mg. per kilo per 8 hrs. or 450 mg. daily)

FIG. 2. Encephalographic changes seen with 6-azauracil therapy (see text for explanation).

type obtained in coma, deep sleep, and certain encephalopathies, but these patients were quite alert and able to carry on an intelligent conversation.

These changes are of a transient nature, and no permanent damage has occurred. Because of these effects and apparent lack of therapeutic response, further studies with 6-azauracil have been curtailed.

We have recently had the opportunity to study some new chlorinated derivatives of Methotrexate, a new name for an older folic acid antagonist, amethopterin (figure 3). The toxicity of these halogenated derivatives is similar to the parent compound.[6] They all cause hematopoietic depression reflected in the peripheral blood as a decrease in the number of formed elements, as well as ulceration of the buccal mucosa. We have also noted the appearance of abnormal liver function tests. There has been elevation of the alkaline phosphatase, retention of bromsulphalein, and a rise in serum enzyme levels such as the serum glutamic oxalacetic transaminase in patients treated with these agents. An illustrative case may be seen in figure 4. These changes appear to be temporary, and the liver function tests return to normal when the drug is discontinued. The nature of the lesion is not known, but further investigation is being planned.

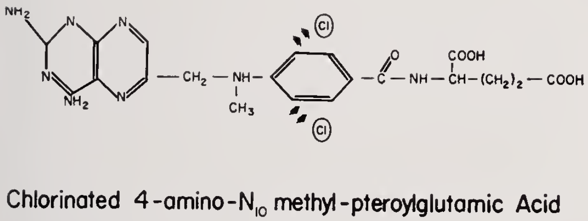


Fig. 3. Structural formula of Methotrexate.

These three examples of unsuspected complications occurring with the use of oncolytic drugs serve to point out the importance of the early, precise and thorough evaluation of all new drugs regardless of their suggestive usefulness.

Summary

Three examples of unpredictable side-effects secondary to the use of anticancer agents have been presented. These are (1) alopecia with the use of cyclophosphamide, (2) neurologic changes and electroencephalographic abnormalities with 6-azauracil, and (3) liver function changes following the use of chlorinated derivatives of Methotrexate.

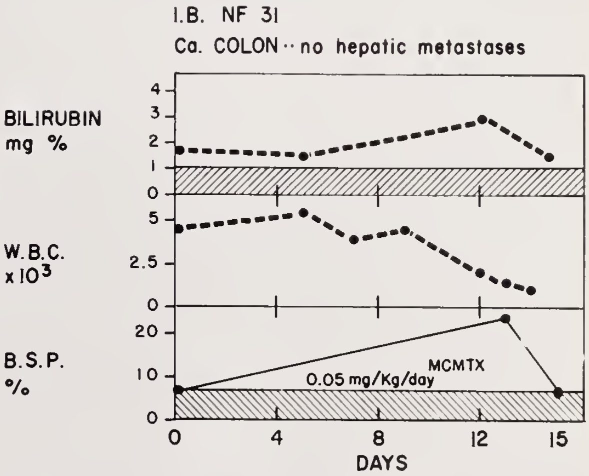


Fig. 4. Graphic representation of abnormal liver function studies in a patient receiving monochloromethotrexate (MCMTX).

Early, precise investigation is essential in the evaluation of a new compound regardless of its suspected usefulness.

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(Continued on page 186)

Stab Wounds of the Heart*

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THE MANAGEMENT OF PATIENTS with stab wounds of the heart has long been of interest to surgeons. The extensive writings on this subject have shown that a remarkably high salvage rate is possible following what is potentially the most lethal of wounds because of the frequent development of cardiac tamponade.

Pericardiocentesis for the treatment of heart wounds associated with tamponade was first suggested by Riolanus in 1649[1] and first practiced by Larrey in 1829.[2] Operative repair of a heart wound was first attempted by Cappelen in 1895,[3] the first success being achieved by Rehn in 1897.[4] Following this, interest was concentrated on the surgical repair of these wounds,[5-11] until 1943, when Blalock and Ravitch[12] reintroduced the earlier concept of nonoperative treatment. Since then pericardiocentesis as a definitive treatment of heart wounds with tamponade has been preferred by many surgeons[13-17] including previous advocates of cardiorrhaphy.[18] Some still advocate immediate cardiorrhaphy[19-22] and others initial pericardiocentesis, followed by operation if tamponade recurs or cannot be relieved.[16, 17, 23, 24] All are agreed that operation is indicated if a heart wound is suspected in association with continuous bleeding without tamponade.

We have recently reviewed the experience of the George Washington University Surgical Service with penetrating thoracic wounds of all types at the District of Columbia General Hospital from July 1954 to July 1960.[25] This review has now been extended to include the year 1960 to 1961. During this 7-year period 269 such patients have been treated. In spite of the predominantly precordial location of the wounds (table 1) only 11 patients sustained wounds of the pericardium and heart. This experience, although small, is sufficient to show that certain features in the diagnosis and treatment of stab wounds of the heart seem worthy of review and reëvaluation.

TABLE 1
Distribution of Penetrating Wounds

Type	Location		Number of Wounds
A. Thoracic	Left side	Anterior	154
		Posterior	22
	Right side	Anterior	80
		Posterior	14
	Midline anteriorly		1
B. Thoraco-abdominal	Left side		7
	Right side		3

DIAGNOSIS

The weapon was a knife in all of our cases but one, in which it was unknown. All patients had one or more stab wounds in the precordium. All 11 patients were in shock, the degree of which seemed out of proportion to the severity of the injury in nine. This is characteristic of cardiac tamponade, which was present in these nine cases.

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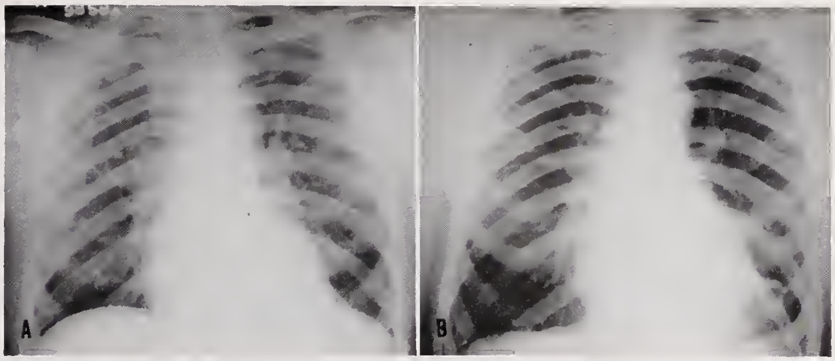

FIG. 1. A. Preoperative roentgenogram, showing widening of superior mediastinal and cardiac silhouettes. B. Postoperative roentgenogram, showing normal mediastinal and cardiac silhouettes.

Changes in the sensorium, ranging from deep coma to violent agitation and disorientation, were seen, complicated by intoxication in four of the nine adults. These signs were of no value in the diagnosis or prognosis.

Distant heart sounds were noted in all patients, including one who had a pericardial wound with pneumopericardium but no heart wound.

Distention of the neck veins was noted in seven of the nine patients with tamponade. In two of these the sign appeared only after transfusion. In one case this paralleled a rise in venous pressure from 130 mm. of water to 260 mm. of water. The absence of distention was noted in the patient with a pneumopericardium who had a normal venous pressure. Venous pressures, obtained on admission in five other patients, were markedly elevated. All five had cardiac tamponade.

The pulse rate was increased in nine patients; a paradoxical pulse was noted in four, and in two there was no palpable pulse.

Portable chest roentgenograms were obtained on admission in eight of the 11 cases. These were all anteroposterior views taken in the upright position. In six of these there was transverse enlargement of the heart shadow with straightening of the left border. Three showed, in addition, widening of the superior mediastinum on the right side suggesting distention of the superior cava (figure 1). These signs were taken to indicate cardiac tamponade, which was present in all cases. In one patient the chest roentgenogram was within normal limits, although tamponade was present. Associated extracardiac abnormalities were demonstrated in two cases, a left hemothorax in one and a right pneumohemothorax in the other. Cardiac fluoroscopy was not used in any case.

TREATMENT

Of the 11 patients one died within five minutes of admission before effective treatment could be started. In all but one of the remaining patients thoracotomy was performed for a variety of reasons. In one patient the diagnosis was made during laparotomy for a supposed liver injury. In three patients there was associated active intrapleural bleeding. Pericardiocentesis was attempted in six cases, failed completely in three, and was followed by recurrence of tamponade in three. Five of these patients were operated upon. The sixth recovered slowly after a second pericardial tap. An additional indication for thoracotomy in two patients was the necessity for laparotomy for penetrating wounds of the abdomen.

Of the patients operated upon, one, with a massive right pneumohemothorax and pneumopericardium (figure 2), was found to have a small blood clot in the pericardial sac, but no myocardial wound could be found. In four cases the myocardial wounds were actively bleeding at the

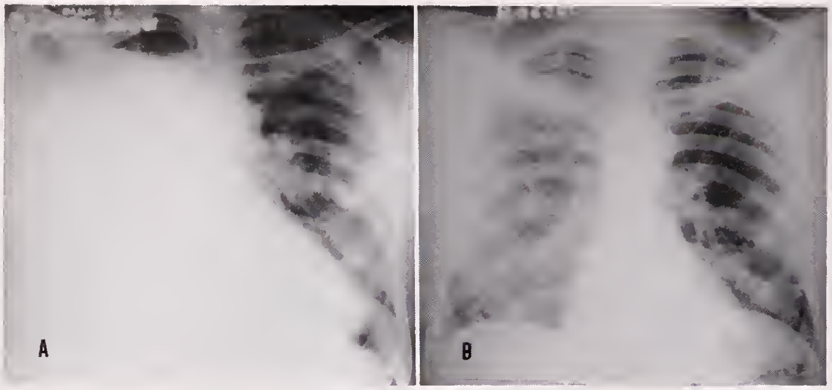

FIG. 2. A. Preoperative roentgenogram, showing right pneumohemothorax and pneumopericardium. B. Postoperative roentgenogram.

time of operation, and in three bleeding had ceased. In one of these bleeding started again as soon as the wound was exposed. Cardiac arrest occurred in two patients just prior to release of cardiac tamponade. Both were successfully resuscitated. One of these patients had been in shock for several hours prior to operation and had signs of central nervous system damage postoperatively. This cleared slowly but completely. One patient developed an aortic-right ventricular fistula from a stab wound through the outflow tract of the right ventricle. This was successfully closed one month after the emergency cardiorrhaphy with cardiopulmonary bypass. This case has been reported in detail elsewhere.[26] All ten patients were successfully resuscitated.

DISCUSSION

In general, the diagnosis of a penetrating heart wound is not difficult, the most significant presenting sign being a degree of shock out of proportion to the severity of the wound. In this connection a quick review of the patient's previous medical records, if any, may be rewarding. One of our patients presented in a semiconscious state with signs of cardiac tamponade. A blood pressure of 94/84 mm. Hg was considered fairly satisfactory until a review of his record showed that he had been hypertensive for years and that his blood pressure was usually 180/110 mm. Hg.

On physical examination the clinical signs of distant heart sounds and distended neck veins should be carefully looked for. The finding of distended cervical veins is particularly significant and should be evaluated by measurement of the venous pressure. Although the usefulness of this sign has been questioned[21, 22, 27] we have found that in the presence of shock associated with a precordial wound, venous distention and hypertension are reliable signs of tamponade and are usually present if looked for. If not present initially they will appear following minimal intravenous infusion of fluids or blood. It is our practice to place a saline manometer in one of the intravenous lines and fasten it to the intravenous stand after the correct zero point has been measured. Frequent determinations of venous pressure are made before and after definitive treatment. This, in conjunction with the arterial pressure, provides an exact index of the patient's condition at any time. In one patient the sudden rise of arterial pressure and fall of venous pressure to normal levels after minimal intravenous fluid therapy indicated intrapleural decompression of the tamponade. This was later confirmed at thoracotomy.

The sign of pulsus paradoxicus should be looked for as additional evidence of tamponade, but it was present in less than half of our cases. It is our impression that this sign is more frequently present in chronic tamponade.

Roentgenography is usually contrasted unfavorably with fluoroscopy as a diagnostic aid in acute cardiac tamponade.[8, 10, 12, 13, 22, 27, 28] The significant finding on fluoroscopy is diminished or absent cardiac pulsation. It is frequently stated that the pericardium does not distend sufficiently in acute tamponade to change the cardiac silhouette on a roentgenogram. While this is undoubtedly true in some cases, and was in one of ours, it has been our experience and that of others[21] that it usually does distend enough to cause straightening of the left cardiac border and widening of the cardiac silhouette. In addition, there may be significant widening of the superior mediastinum on the right side caused by distention of the superior vena cava. Care must be taken in interpreting these films and due allowance made for the fact that they are usually antero-posterior views taken with a portable X-ray machine and are rarely good inspiratory films. When due allowance is made for these factors we have still found the upright chest roentgenogram to be of significant value in detecting the presence of acute cardiac tamponade. In addition to the changes in the cardiac silhouette, the chest roentgenogram clearly demonstrates associated abnormalities such as pneumothorax, hemothorax, fractured ribs, and so on, and provides a permanent objective record for comparison with previous and subsequent roentgenograms.

We have not used fluoroscopy at all, believing that the advantages are outweighed by the disadvantages. Among these are the necessity of transporting a critically ill patient to the X-ray department, the delay necessary for the examiner to become accommodated, and the doubtful value of the purely subjective impressions of an inexperienced fluoroscopist.

An injury to the heart was suspected immediately in all of our patients but one, who had a wound in the right sixth intercostal space in the midclavicular line. In this case we were misled by the presence of profound shock and a rapidly expanding mass in the right hypochondrium. This was thought to indicate a transdiaphragmatic injury to the liver. The patient was transfused rapidly and laparotomy was performed, which revealed no injury but a liver greatly enlarged by passive congestion. By this time the patient had received several units of blood without elevation of his blood pressure, and gross distention of the cervical veins had appeared. The diagnosis of cardiac tamponade with venous hypertension, compounded by overtransfusion, was then clear. The incision was rapidly extended into the right side of the chest. Cardiac arrest occurred on opening the chest, but normal sinus rhythm was rapidly restored after a few manual systoles, causing partial decompression of the tamponade into the right pleural cavity. The pericardium was opened widely and a wound in the right atrium 1.5 cm. long, which was bleeding freely, was sutured. The patient made an uneventful recovery.

Wounds of the great vessels and the heart without tamponade are probably the only absolute indications for emergency thoracotomy. If the cardiac wound is associated with tamponade, conservative measures should be tried first. Intravenous fluids and blood are definitely of value. In three of our patients this measure alone raised the arterial pressure to acceptable levels, at least temporarily, before release of tamponade by pericardiocentesis or operation. In our patients pericardiocentesis was a therapeutic success in only one, a temporary success in two, and a failure in three. It was not attempted in five patients. One of these had a pneumohemothorax and pneumopericardium but did not have tamponade. In another patient the diagnosis was made during operation for a supposed liver injury. In two patients the blood pressure rose to normal levels with the administration of intravenous fluids and blood. In one of these the pressure later fell to shock level again. Pericardiocentesis should have been tried, but the patient was successfully treated without it by immediate thoracotomy and cardiorrhaphy. The fifth patient died within five minutes of admission from massive intrapleural hemorrhage without demonstrable tamponade.

In general, pericardiocentesis has not been an effective therapeutic measure in our hands, although it was clearly a life-saving measure in one patient who later required operation for recurrent tamponade.[26] Indications for operation in our cases, other than failure of pericardiocentesis or recurrence of tamponade, have been mentioned and include continued chest wall bleeding of major degree and the necessity for laparotomy for penetrating wounds of the abdomen. In these cases definitive cardiorrhaphy, control of chest-wall bleeding, and water-seal drainage of the pleural cavity are important safeguards against recurrence of intrapericardial or intrapleural hemorrhage during laparotomy.

The great advantage of pericardiocentesis as a definitive therapeutic measure is that it enables any physician to resuscitate a critically ill patient without operation, special skill, or equipment. It is simple and in some series very successful.[14, 16, 17, 24] The disadvantages of the method are, firstly, that it may fail completely because of clotting of the intrapericardial blood[21, 22] or loculation of the blood posteriorly in the pericardial sac, or that the tamponade if relieved may recur. Secondly, the needle may cause further damage by lacerating the myocardium, a coronary artery or cardiac vein,[22] or precipitate ventricular fibrillation and circulatory arrest.[29] Thirdly, patients treated by this method require careful observation for a prolonged period of time, since there may be delayed hemorrhage from the unsutured cardiac wound.[5, 30, 31] Fourthly, there is a five to ten per cent incidence of chronic pericardial effusion and constrictive pericarditis as late complications of this treatment.[14, 17, 24, 32]

The advantages of thoracotomy and cardiorrhaphy are that the cardiac wound or wounds are visualized and closed by suture. There is clinical and experimental evidence that such wounds heal better if they are sutured than if they are not[5, 33] and that the danger of delayed hemorrhage is eliminated. The danger of recurrent tamponade is likewise eliminated by the creation of a large pleuropericardial window, and the removal of all blood from the pericardial sac prevents the later development of constrictive pericarditis. Furthermore, any associated intrathoracic injury can be dealt with definitively at the same time and the operation concluded with water-seal drainage of the pleural cavity. The patient's vital functions are then stabilized should further surgery for associated injuries, such as exploratory laparotomy, be necessary, as was the case in two of our patients.

Among the disadvantages of operative treatment are the requirements both of personnel and equipment for such surgery, which will not be available in all hospitals but are usually readily available in any large municipal hospital.

There is a very real danger in anesthetizing a patient with significant cardiac tamponade. This is compounded if the patient is intoxicated and if positive pressure anesthesia is used.[14] Cardiac arrest occurred in two of our patients under general endotracheal anesthesia with positive pressure. Both patients were intoxicated. Both were successfully resuscitated by open cardiac massage. If operation in the presence of tamponade is chosen for any reason, pericardiocentesis should be attempted just before the induction of anesthesia even if it has failed before. If the tamponade is relieved, even partially, the risk of induction of anesthesia is greatly reduced.

Operative mortality has fallen from about 50 per cent[8, 21] to about 8 to 17 per cent[29, 34, 35] in recent years. A figure of 10 per cent is generally given for treatment by pericardiocentesis alone.[14, 17] In reported series in which both methods of treatment have been used the operative mortality is always higher.[14, 17, 24] Direct comparison of mortality figures is rarely valid because the patients treated successfully by pericardiocentesis alone are a select group whose cardiac wounds have stopped bleeding and who have no other serious wounds. By contrast, in the operative group we have those in whom pericardiocentesis has failed,[16, 17, 22, 24] those in whom tamponade has recurred,[16, 17, 22] those who develop cardiac arrest in the emergency room,[22, 24] in the operating room[24] or on the way there,[22] and those who have cardiac wounds without tamponade, severe chest-wall bleeding, or other thoracic or abdominal wounds.

Much of the mortality in older series can be ascribed to poor anesthesia, complicated and time-consuming incisions, and maneuvers designed to achieve an extrapleural approach to the heart, technical errors such as tight closure of the pericardium, and inadequate management of excessive postoperative bronchial secretions. With modern anesthetic and surgical techniques and better postoperative care the mortality rate has improved significantly and should improve still further.

Conclusions

In general, we believe that pericardiocentesis should be attempted in all patients with tamponade. It may be adequate to resuscitate the patient, or it may improve his condition to the point where surgery may be undertaken with greater safety.

Paradoxically, we have found that in a busy municipal hospital it may be both easier and safer to manage a patient by definitive operation than by conservative measures requiring prolonged, close observation.

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Needle Biopsy of the Peritoneum*†

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Over the past ten years it has become increasingly apparent that by obtaining histologic specimens from diseased organs our knowledge of pathophysiologic states has been enhanced immeasurably. Furthermore, by correlating this information with the clinical findings a more rational therapeutic approach may be employed.

One of the major factors responsible for these changes has been the widespread adoption of the percutaneous biopsy technique. Utilizing a Vim-Silverman or other type of needle, biopsy procedures of the liver, kidney, bone marrow and pleura have now become standard procedures of proven merit and low morbidity.

For the past two years we have employed a similar approach to the study of a group of patients with intra-abdominal disease and in whom the presence of ascites was a prominent finding. The initial report, which encompassed the indications, technique and early results, was published last year.[1] This paper deals with a larger number of patients, compares the value of another type of needle, and summarizes the overall results.

The patients have been classified in two groups: Group I includes 23 patients in whom the Vim-Silverman needle was utilized and Group II comprises 38 patients in whom another type biopsy needle was employed.[2]

TABLE 1

Indications for Peritoneal Biopsy

1. The presence of ascites of unknown origin.
2. Medical contraindications with no other sites for biopsy.
3. To prevent exploratory laparotomy in those patients in whom it might be of little benefit.
4. To supplement the study of the ascitic fluid removed by paracentesis.

We do not advocate that this procedure should obviate the need for exploratory lapa-

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rotomy. The indications for such intervention are relatively well defined, and the necessity of concomitant curative or palliative resectional surgery remains of paramount importance. However, a critical analysis of the indications listed in table 1 suggests that in many instances the procedure can supply information which otherwise would be unavailable to the clinician.

RESULTS

Tables 2 and 3 list the results obtained in both groups including the specific results obtained by analysis of the ascitic fluid. Peritoneal tissue sufficient for histologic examination was obtained in 50 of the 61 patients studied. The specimens obtained with the Abrams needle (Group II) were usually larger, less distorted, and easier for the pathologist to interpret. Paradoxically, however, in the Group II patients, i.e., those patients in whom the Abrams needle was employed, failure to obtain peritoneum occurred more frequently and a specific diagnosis was uncovered in a fewer number of cases than in the group in which the Vim-Silverman needle was employed. This seeming paradox is readily explained, however. Almost one-third of the patients in Group II consisted of individuals with cirrhosis of the liver, a disease in which the peritoneum is not thickened nor shows specific histologic changes. The nonexistence of the former makes the procedure more difficult technically and reduces the likelihood of obtaining tissue. Obviously, the lack of specific changes in the tissue are also reflected on histologic examination whether the tissue is obtained through needle biopsy, surgical resection, or even at the autopsy table. More succinctly stated, changes which are not present cannot be detected irrespective of how the tissue is obtained.

TABLE 2

Results Obtained in Group I (Vim-Silverman Needle)

Clinical Impression	No. of Patients	Biopsy			Ascitic Fluid	
		S*	NS†	I‡	Pos.	Neg.
Malignancy	19	11	8	0	8	11
Idiopathic	4	1	0	3	0	4
TOTALS	23	12	8	3	8	15

* S = Specific
† NS = Nonspecific
‡ I = Inadequate
Tissue obtained in 20 of 23 patients . . . 87%
Specific diagnosis in 12 of 20 patients . . . 60%
Specific diagnosis from fluid in 8 patients . . . 35%
2 patients had positive fluid but nonspecific biopsy
5 patients had positive biopsy but negative fluid
Combined yield (biopsy + fluid) . . . 75%

TABLE 3

Results Obtained in Group II (Abrams Needle)

Clinical Impression	No. of Patients	Biopsy			Ascitic Fluid		
		S*	NS†	I‡	Pos.	Neg.	U§
Malignancy	20	8	7	5	8	9	3
Cirrhosis	11	0	8	3	—	—	—
Unknown	7	2	5	0	1	4	2
TOTALS	38	10	20	8	9	13	5

* S = Specific
† NS = Nonspecific
‡ I = Inadequate
§ U = Unknown

Further analysis of tables 2 and 3 indicate that, in the group of patients with malignant disease, biopsy was more likely to afford a diagnosis than was the analysis of the ascitic fluid. Furthermore, when used in conjunction with this latter modality, a specific answer was available in 70 to 75 per cent of the patients. This proof of the diagnosis represents a figure significantly higher than that produced by any other method or combination of methods short of laparotomy.

The complications encountered are listed in table 4. In no instance were these of any major significance except that blood replacement was given in the patient in whom hemorrhage occurred. In the three patients in whom bowel was obtained at biopsy, no signs of peritonitis developed and no changes in the clinical picture were appreciated.

TABLE 4
Complications

Type	No. of Cases
1. Bowel biopsy	3
2. Hemorrhage	1
3. Infection	0
4. Tumor implant	1

SUMMARY

Needle biopsy of the peritoneum is a safe procedure which, when properly performed, has distinct diagnostic value. The Abrams needle is superior to the Vim-Silverman for this type of biopsy because of the technical ease with which it is employed, since tissue is more often obtained and the specimen is technically superior. In a series of 61 patients in whom ascites was present, peritoneal tissue was obtained in 50, or 82 per cent of the cases. Specific findings, primarily malignant disease, were detected in approximately 50 per cent of the cases in which the clinical impression suggested malignancy. The procedure was of little value in patients with ascites due to cirrhosis. The complications were few and of little significance.

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Study of a New Expectorant in One Hundred Patients

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THE COUGHING, WHEEZING PATIENT in marked respiratory distress is a familiar problem to all general physicians. Many of these patients prove to have seasonal allergies, many have acute respiratory infections (including the "common cold," bronchitis, tracheobronchitis, croup, etc.), and some are found to have chronic conditions, such as asthma, emphysema, etc., with a superimposed respiratory infection. In all the immediate problem is relief of the respiratory distress. In many instances a variety of proprietary "cough" preparations have been tried for quite a while before medical aid has been sought. Although there also is no lack of prescription products, I am always hopeful of more beneficial or more specific formulae to come. The purpose of this paper is to report my findings with a new formula in the treatment of 100 patients seen in every-day practice in whom acute respiratory congestion was the most urgent symptom.

MATERIALS AND METHOD

One hundred patients were treated with a new liquid preparation* with demulcent properties designed to relieve congestion and cough. The formula contains in each 5 c.c. teaspoonful codeine phosphate 10 mg.; the expectorant, glyceryl guaiacolate 100 mg.; the decongestant-bronchodilator, pseudoephedrine hydrochloride 30 mg.; and an antihistamine, triprolidine hydrochloride 2 mg.

Codeine is so well known for its antitussive and pain-relieving properties that it needs no discussion here. It is the standard antitussive against which all new ones are compared.

Glyceryl guaiacolate has been reported as an effective expectorant by a number of investigators.[1-5] Bickerman,[5] in "Drugs of Choice," lists the drug as deserving mention for its ability to reduce the viscosity of accumulated secretions and facilitate their expulsion. He cites experimental studies by Boyd and associates which indicated an increase in respiratory tract fluid of nearly 200 per cent after administration of glyceryl guaiacolate.

Pseudoephedrine, a stereoisomer of ephedrine, is classified as a sympathomimetic amine. Both ephedrine and pseudoephedrine act on the sympathetic nerve endings and ganglia, but pseudoephedrine has, additionally, direct action on smooth muscle, even in small doses. As an orally effective decongestant and bronchodilator, pseudoephedrine has been reported equal in efficacy to ephedrine and considerably less toxic.[6-10] Although pressor effect is virtually absent in normotensive patients, the drug should be given with caution in hypertension. A notable advantage in the use of a systemically effective respiratory decongestant is that it reaches all areas of the respiratory tract mucosa, including the eustachian tubes. Particularly in bronchial and asthmatic cases, the combined decongestant-bronchodilator properties of pseudoephedrine can markedly benefit the distressed, wheezing patient.

Triprolidine hydrochloride is an antihistamine of high potency, effective in low dosage, and known chemically as trans-1-(4-methylphenyl)-1-(2-pyridyl)-3-pyrrolidino-prop-1-ene hydrochloride. It has been shown to have a wide margin of safety, even for children; laboratory studies indicate that the toxic dose is 400 to 800 times the therapeutic dose of 2.5 to 5 mg. When allergy is part of the respiratory disorder, as in allergic asthma, the addition of an effective antihistamine to a demulcent-decongestant preparation should prove beneficial to the patient. In nonallergic disorders the antihistamine will do no harm, but may help by decreasing excessive secretions through its mild atropine-like action. Although triprolidine produces only a low incidence of drowsiness, patients should be cautioned.

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* 'Actifed-C'® Expectorant, the preparation used in this study, was supplied by Burroughs Wellcome & Company, Tuckahoe, N. Y.

All of the 100 patients in this study were seen in my private practice. Inclusion was based on the presence of marked respiratory distress, i.e., coughing, wheezing, and congestion and tightness in the chest. Their ages ranged from 4 to 74 years. Only 31 of these patients had what is commonly called acute upper respiratory infection. In 69 the diagnosis ranged from croup through other respiratory disorders to emphysema of 30 years' standing with a superimposed acute upper respiratory infection (table 1). Symptoms for which relief was sought had been present from 3 hours to 2 weeks.

TABLE 1

Numbers of Patients by Diagnoses

Diagnosis	No. of Patients
Upper respiratory infection (URI)	31
Tracheobronchitis	13
Acute bronchitis	12
Chronic bronchitis and URI	9
Grippe	9
Allergic asthma	9
Tonsillitis and acute URI	5
Asthma, acute URI	4
Pleurisy	2
Bronchitis and asthma	2
Emphysema and URI	2
Croup	2
TOTAL	100

The medication was given in the recommended dosages 4 times daily—adults and children over 12 years, 2 teaspoonfuls; children 6 to 12 years, 1 teaspoonful; infants and children up to 6 years, ½ teaspoonful. Effectiveness of the medication was determined by the patient's response, such as relief of congestion (nasal and tracheobronchial), reduction of cough, easy expectoration of accumulated secretions, release of "tightness" in the chest, and improved respiration. In patients with chronic conditions of some years' duration, particular note was taken of the benefits derived from this preparation as compared to previously used medications.

The overall results are presented in tables 2 and 3 and show that the preparation is an effective antitussive and expectorant.

TABLE 2

Subjective Evaluation of Change in Symptoms

Symptom	Increased	Decreased	No Change
Cough	17	80	3
Volume and liquidity of sputum	59	28	13
Tightness in chest	3	72	11

TABLE 3

Preference with Regard to Previously Used Medication

	Superior	Equal	Inferior
Acute isolated episodes	46 (60%)	15 (20%)	15 (20%)
Acute exacerbations of chronic disease	22 (92%)	2 (8%)	0

DISCUSSION

The preparation has a somewhat medicinal flavor, liked by most of the patients but disliked by seven who were accustomed to very sweet "cough syrups." Contradicting the general theory that children will not take medicine unless it is "like candy," the youngsters in this group were no problem. Only one of the patients, a ten-year-old boy with tracheobronchitis, showed an allergic intolerance to it. Eight other patients reported a transient nausea on the first day of treatment, which may or may not have been attributable to the codeine. Since it was a temporary reaction, it did not disrupt treatment in these cases. Although codeine may be habit-forming, evidence of habituation was conspicuously absent.

Table 3 shows the effectiveness of the expectorant in those patients with an underlying chronic disease.

With the exception of one patient who proved intolerant to codeine, there were no serious side-effects. Eighty-seven patients experienced no side-effects. Eight noted slight nausea on the first day of treatment. There was one complaint of increased throat irritation by an 18-year-old young man with tracheobronchitis of seven days' duration for which other medications had been tried. By contrast, other patients with acute bronchitis and tracheobronchitis said they found this preparation "soothing" to the throat.

The youngest patient, a boy of four years with croup of four or five days' duration, experienced no side-effects and responded well to ½ teasponful q.i.d. Croup diminished within 48 hours and the child rested well.

In the oldest category were two men aged 74, both with emphysema and acute upper respiratory infections. One of these, with emphysema of 30 years' duration, considered the preparation "very good" and it "helped a great deal." The other, with chronic bronchitis of 30 years' duration and emphysema of 12 years who had tried "all types" of preparations previously, declared this medication "the best yet" and "helped very much."

In patients with underlying chronic respiratory disorders, this preparation consistently diminished the nonproductive cough, relieved wheeze and tightness in the chest, and eased expectoration of mucoid secretions. These patients were very pleased with the medication and wanted to continue using it for future exacerbations of the chronic disorder.

SUMMARY

In a clinical study of 100 patients with acute respiratory disease, 'Actifed-C' Expectorant effectively diminished coughing and tightness in the chest in 80 per cent of the patients. It also helped to increase the output of a thinner, more liquid sputum in 59 per cent.

When compared with previously used medications in normal patients suffering an isolated acute episode, 60 per cent of these patients found the new expectorant superior. Of the patients with acute respiratory disease superimposed upon an underlying chronic disease 92 per cent found the new preparation to be superior to previously employed medications.

Outside of a single case of allergy to codeine, side-effects were mild and limited to a few cases of slight nausea and slight drowsiness.

'Actifed-C' Expectorant is a valuable adjunct in the treatment of acute respiratory tract disease, especially in those patients with underlying chronic respiratory disease.

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Roentgenographic Evaluation of the Size and Shape of the Kidney

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Significant enlargement of the kidney generally manifests itself as a "palpable mass" on physical examination, and usually it is easily recognized on the roentgenogram. Slight and moderate enlargement, however, remains commonly ignored or unrecognized. This happens partly because of technical difficulties in demonstrating the kidneys and partly because of the unreliability of the measurements with the usual methods. Moell[1] in his report on the size of the kidneys states that the anatomic "measurements cannot be strictly applied to the roentgenographic appearance of the kidneys." Nevertheless, the value of a more adequate evaluation of the kidney size is emphasized by several authors. In an early stage of polycystic kidney, when the diagnosis is still in doubt, Billing[2] observed enlargement of the kidney in all of the 14 cases studied. He found the longitudinal diameter to be more than 14 cm. in these patients as compared with the measurements of 11 to 13 cm. on his normal control cases. Braasch and Merricks[3] report on the "value of demonstration of the enlarged solitary kidney" found in 90 per cent of the patients with renal agenesis. This is in contrast with the observations on acquired solitary kidneys, the incidence and the degree of compensatory hypertrophy in the latter cases being distinctly less. Kleeberg and Dreyfuss[4] called attention to the diagnostic and prognostic information obtained by the X-ray diagnosis of a contracted kidney in chronic glomerulonephritis and hypertensive vascular disease. Whenever the demonstration of a decreasing kidney size was made, a corresponding deterioration of the kidney function was also observed. This observation is particularly significant in cases of acute renal insufficiency, as emphasized by Olsson.[5] In the late phase of chronic glomerulonephritis a small kidney may indicate the presence of a contracted kidney as compared with a kidney of normal or increased size in the acute stage of the disease. Thus the demonstration of the kidney size in uremia may make the differential diagnosis possible between an acute exacerbation of chronic glomerulonephritis and acute glomerulonephritis.

The kidney image on the roentgenogram is magnified according to the principle of central projection. This magnification amounts approximately to 8 to 10 degrees in a person of average size when the generally accepted techniques are employed. This is inherent to the procedure and is generally known. Another and less appreciated source of distortion of the kidney image results from rotation of the kidney.

Rotation may occur around the transverse axis, which produces a shortened kidney image with a normal width. Slight rotation with the upper pole tilted posteriorly is commonly present in normal persons (Rolnick[6]). In cases of ptosis or of abdominal (both intraperitoneal and retroperitoneal) masses rotation may reach a marked proportion; this results in significant distortion of the kidney image[7] (figure 1).

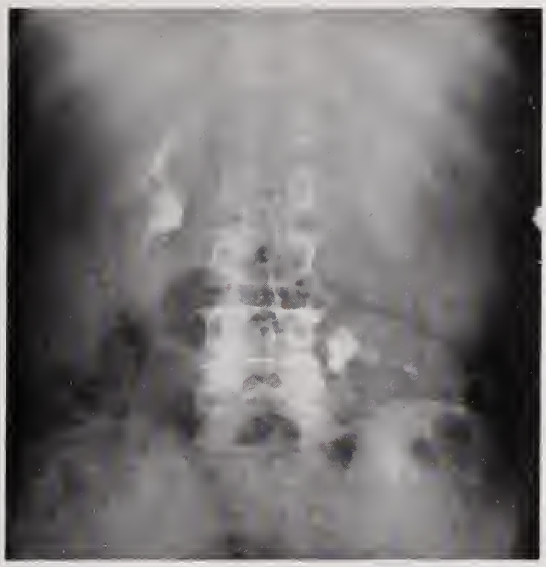

FIG. 1. Excretory urogram. The left kidney is displaced distally by the enlarged spleen and is rotated around its transverse diameter. Note that the kidney image is shorter and the width normal.

A more common type of rotation is that around the longitudinal axis.[8] There may be no rotation when the hilus looks medially. This is the position which produces the widest possible transverse diameter of the kidney image (figure 2). Most commonly with the patient supine a rotation of variable degree is found with the hilus looking medially and anteriorly. This rotation results in a narrower kidney image (figure 3). The rotation and the distortion of the kidney image are eliminated or significantly reduced after the patient is placed in the erect or prone position. This change in size and shape is the result of a rotation with the hilus looking medially. Medial rotation, occurring when the patient is prone or erect, is generally associated with a shift of the kidney into a plane anterior to the psoas muscles (figure 4). Because of the rotation described, prone position is believed to be more adequate for evaluation of the size and shape of the kidney than the generally employed method with the patient in the supine position. The taking of films in the prone position is a part of the routine procedure in excretory urography in this Department.

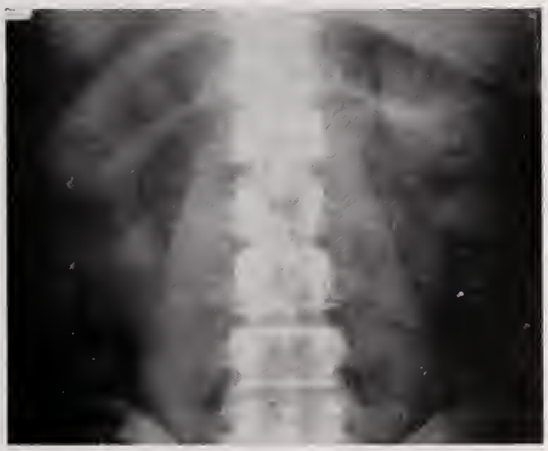

FIG. 2. Roentgenogram of the abdomen of a muscular male patient in supine position. The hilus looks medially, the kidney casts a broad projection. Note that the concavity of the hilus is visualized.

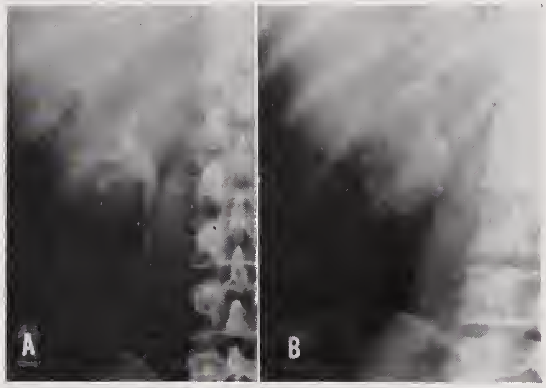

FIG. 3. A. Anteroposterior view of right kidney in an excretory urogram of a male patient. There is calcification in both adrenals without any evidence of impairment of the adrenal function.

B. Right posterior oblique view. With the rotation of the patient a projection of the kidney was reproduced which is identical with that obtained when the hilus is rotated anteriorly. Note that the kidney image is narrower than in "A."

For a determination of the length and width of the normal kidney image on the roentgenogram, measurements of 100 persons without significant kidney disease, both with the patient supine and prone, were taken. The transverse diameter was measured at the level of the hilus where the convexity is the most prominent; the medial end of the transverse diameter was

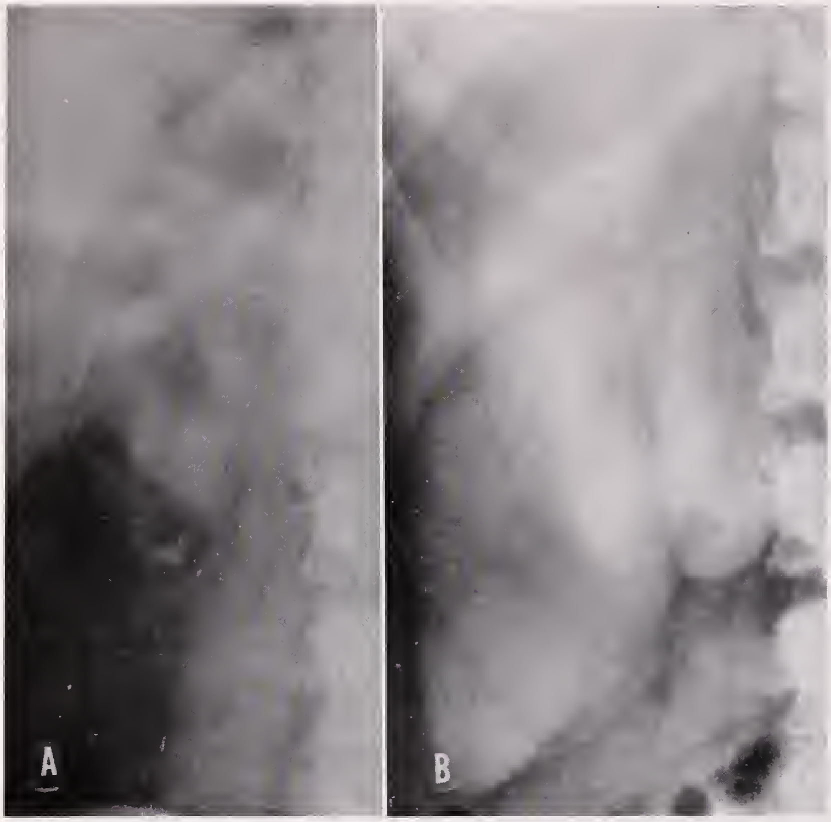

FIG. 4. Roentgenograms of the abdomen of a female patient:

A. In supine position the kidney image is narrow due to a rotation, with the hilus looking anteriorly and medially.

B. In the prone position (cholecystogram)—the kidney occupies a more medial position anterior to the plane of the psoas muscles. It casts a wider projection than in "A," resulting from medial rotation of the hilus.

determined by a line drawn through the most prominent points of the medial contour above and below the hilus. Previous authors (Braasch and Merricks,[3] Moell[1]) measured the kidney images in the "widest diameters." It is believed, however, that our method of measuring is more consistent and accurate, and it results in more comparable figures of the transverse diameter. The figures of measurements obtained are indicated in table 1. It is to be noted that the transverse diameter is considerably wider when it is taken with the patient prone as compared with that taken in the supine position. This is the result of a decrease or absence of rotation when the patient is prone. For this reason measurements in this position approximate the anatomic values better than those taken in the supine position. It also may be observed that the left kidney is somewhat larger than the right, which is a conformity with anatomic observations and with other roentgenographic measurements (Moell[1]). A comparison of the present study with anatomic and other roentgenographic measurements is given in table 2. In an individual evaluation of the kidney size it should be taken into consideration that the average female kidney is slightly smaller and the average male kidney is somewhat larger than the measurements given in table 1. On the basis of Pourteyron's figures[11] obtained on anatomic specimens it is calculated that the deviation from the general average in males and females is 5 per cent in the transverse diameters and 2 to 3 per cent in the longitudinal diameters in both (±) directions.

TABLE 1

Average Measurements of the Kidney Image (in Cm.) in A.–P. and P.–A. Positions on 100 Urograms

(Figures in Parentheses Indicate the Range of Measurements)

	Right Kidney		Left Kidney	
	Transverse Diameter	Longitudinal Diameter	Transverse Diameter	Longitudinal Diameter
Supine	6.2 (5.0–7.8)	12.7 (10.5–15.2)	6.7 (5.8–8.1)	12.8 (11.1–15.0)
Prone	7.3 (5.7–9.3)	13.0 (10.8–16.0)	7.7 (6.1–9.5)	13.3 (11.5–15.9)

The method of measurements employed and the figures given intend to provide a standard of measurements of the kidney image for comparison purposes. In any evaluation of the size and shape of the kidney the considerable variation of the "normal" should be taken into consideration, and rotation either around the transverse or the longitudinal axis should be ruled out. If the rotation is of significant magnitude, in most cases it can be recognized on the anteroposterior roentgenogram. Slight rotation generally cannot be recognized without lateral urogram or retrograde study. In doubtful cases the lateral film should not be omitted. If the presence of rotation is overlooked, an incorrect diagnosis of hypoplastic or contracted kidney or that of a cyst or tumor may be made.

TABLE 2

Comparison of Kidney Measurements (in Cm.)

	Transverse Diameter	Longitudinal Diameter
(a) Measurements on Kidney Specimens		
Gray's Anatomy[9]	5.7–7.5	11.25
Callander's Surgical Anatomy[10]	7	12
Rolnick[6]	6	12
(b) Measurements on Roentgenograms		
Braasch and Merricks[3]	6	12
Moell[1] *	6.1	12.5
Author		
Supine	6.4	12.7
Prone	7.5	13.1

* The average was calculated from separate measurements on right and left.

SUMMARY

The kidney image on the roentgenogram may be markedly distorted by rotation. Rotation around the transverse axis shortens the vertical diameter of the kidney image and that around the longitudinal axis shortens the transverse diameter. In the supine position the kidney is generally in rotation with the hilus looking anteriorly and medially. In the prone position the anterior rotation of the hilus generally disappears or decreases. Measurements in this position provide more accurate values than those taken in the supine position. Respective figures on 100 urograms taken both in the supine and the prone position have been presented.

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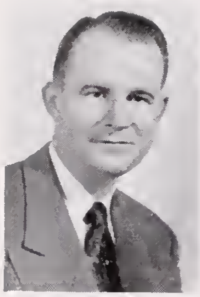
PRESIDENT'S PAGE

BEYOND THE CALL OF DUTY



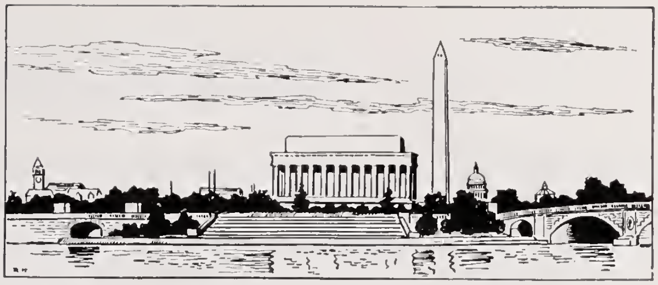
THERE ARE NOT MANY PEOPLE, professional or lay, outside of those directly concerned with the conduct of the affairs of the Medical Society of the District of Columbia who are aware of the extent of public service rendered by its various committees.

Those who attended the Public Meeting held in connection with the 29th ANNUAL SCIENTIFIC ASSEMBLY last November will recall that Dr. Herbert S. Gates, Chairman of the Society's Traffic Committee, was the recipient of the Community Service Award in recognition of the time and effort he had given to his Committee's activities. Because of its brevity, the presentation did not do full justice to the tireless efforts in the public interest on the part of Dr. Gates and his associates. The fact is that these were far "beyond the call of duty."

For several years, the Committee, under the guidance of Dr. Gates, has reviewed the applications for drivers' licenses which have been denied or withheld from individuals for physical and emotional reasons. This has not been an easy assignment and has placed heavy demands on the Committee, which devotes at least one evening a month at the Municipal Center to this task. At best, it is an onerous one, although members of the Committee have expressed the view that it is a very much needed public service.

There are, of course, other examples of committees of the Society which render public service, i.e., Public Health, Mental Health, Alcoholism, Child Welfare, Maternal Welfare, Diseases of the Chest, Venereal Disease, Occupational Health, Aging, Cancer Control, Poliomyelitis, and Rehabilitation and Chronic Illness. All of these Committees perform functions which are not related directly or indirectly to the self-interests of physicians. They have and will continue to make valuable contributions to the public welfare.

J Spencer Dryden



EDITORIALS

Ted Wiprud's Retirement as Secretary Announced

Editor's note: The following letter was sent to the Society's Active and Life members on February 5, 1962.

Dear Doctor:

On behalf of the Executive Board of the Medical Society I wish to make the following announcement: Mr. Theodore Wiprud, our Executive Director and Secretary since 1938, is retiring on July 1, 1962.

"Ted," as he is affectionately known to all of us, came to the Society in 1938 after having served in a similar capacity with the Milwaukee County (Wisconsin) Medical Society. The acknowledged Dean of Medical Society Executives thus completes in a few months a career marked by exceptional achievements in directing the nonprofessional endeavors of organized medicine in the District of Columbia. His record with our Society in these 24 years has been outstanding. He has directed the everyday work of the staff with great efficiency. As Managing Editor of the Medical Annals of the District of Columbia he has contributed immensely toward making the Annals one of the most distinguished of State Medical Journals. He has collaborated impartially and wholeheartedly with each new administration in making our Society strong and respected, both locally and nationally. To all who have sought his help or advice he has been a trusted confidant, honest advocate or fair critic.

Ted tendered his resignation to the Board in September 1960, to become effective July 1, 1961. However, he acceded to the request of the Board that he continue on the job until July 1, 1962. We regret deeply that the time has come for Ted to terminate his services with us. We are going to miss him very much indeed.

At this time I feel we can take great pride in announcing the appointment of Mr. George W. Cooley to succeed Mr. Wiprud as Executive Director and Secretary. Mr. Cooley is at present the distinguished Secretary of the Council on Medical Service of the American Medical Association, with which he has been associated since 1945. The Board feels that Mr. Cooley will be a worthy successor to Mr. Wiprud.

Mr. Lawrence A. Zupan will continue to serve as Assistant Secretary and Manager of the Medical Bureau. His experience will continue to be a valuable asset to the Society.

Yours sincerely,
James W. Watts, M.D.
Chairman, Executive Board

Opinions expressed in Contributions to the Editorial Section are those of the writer and do not necessarily reflect the views of the Medical Society of the District of Columbia

Basic Criteria for Blood Transfusion

Whenever records of any hospital reveal that more than half the blood transfusions given are single unit doses, a critical evaluation of blood usage in that hospital is indicated. There are, of course, cogent reasons for giving a patient a single pint of blood, but they are relatively few. Other therapeutic measures are available for correction of coagulation defects, for quick restoration of intravascular fluid, and for treating simple anemias. For optimal therapeutic effect and for maximal utilization of blood resources, whole blood transfusion should be used only when whole blood is needed.

The use of packed red cells, plasma, plasma fractions, platelets, or albumin for specific deficiencies is preferable to a shotgun treatment using whole blood in the hope that one component may hit the mark and cure the patient. When only packed red cells are transfused for their oxygen-carrying capacity, the remaining plasma, which has a longer shelf life, could be used for another patient or fractionated into various derivatives such as gamma globulin.

A brief set of basic criteria for blood transfusion is now available from the Joint Blood Council as a guideline for transfusionists. Available also is an outline for a transfusion review program which recommends an analysis of all transfusions of blood and blood derivatives by one of the existing medical staff committees of the hospital or by a committee set up especially for this purpose. Standards for a Blood Transfusion Service developed jointly with the American Association of Blood Banks and used also by the American Red Cross include in the pamphlet recommended guides for such a committee. The basic criteria and the Standards should be supplemented by carefully planned procedures to insure maximum safeguards against technical or clerical errors.

Blood administration is a service both precious and dangerous with life-saving and health-restoring potential. Reactions and deaths will occur as a result of technical mishandling and inadequate supervision. A Transfusion Review Program in every hospital and a judicious selection of blood or its components by the clinician, supported by safe laboratory procedures, will pave the way toward more understanding of the entire blood picture. Blood banking would then more adequately serve the patient.

The term "Transfusion Service" implies more than simply furnishing material for a transfusion. The practice of transfusion requires technical knowledge and experience; physiopathologic states and the hydrodynamics of circulation must be evaluated when transfusions are considered. Because of its inherent danger, transfusion involves great responsibility on the part of all participating in the procedure.

In case of unfavorable reaction following a transfusion, much of the responsibility rests with the physician who has ordered the transfusion. Requests for transfusion of whole blood or blood derivatives should be made with notation of the indication for transfusion in order that the physician or physicians in charge of the Transfusion Service may be able to advise concerning the speed and volume of flow, as well as the type and quantity of material best suited to the patient's needs.

Requests for blood transfusions for elective operations should be made at a reasonable time before operation with full consideration of the actual expected need.

We think it would be well for every practitioner to tip his hat to the source and pipeline for the blood hanging on the stand beside his patient. The recent public disclosures of outdated blood being sold should not undermine the well earned confidence of the vast majority of transfusion services and blood banks.

Frank E. Wilson, M.D.
Executive Vice President,
Joint Blood Council, Inc.

New Approach to the Older Patient

While "geriatrics" has not yet been widely accepted as a separate field, there are at least four areas of divergence from general adult medicine that merit comment.

There is, first of all, a difference both in the characteristics of the individual patient and in the total patient load. Advances in medical science over the last few decades have given us another 20 years' expectancy and added another phase to our life. The aged in our country now number more than 16 million and have been increasing at a rate twice that of the general population. While younger adults, to be sure, have chronic disease, its incidence at 70 is tenfold that at 30 years of age, and after a general examination it is rare that only one disease state is recorded under diagnostic impressions, since multiple pathology is the rule rather than the exception.

Disease in the aged frequently manifests itself in an unusual way. We see brain tumors overlooked because the patient lacks papilledema, and hyperthyroidism diagnosed only when the patient goes into heart failure. We see aged patients with cancer, doomed by the physician to a quick demise, living on for months and years and even succumbing to another disease. Too often correctable conditions are overlooked and symptoms justified because the patient is old or "senile." An awareness of the diseases usually seen in the aged and knowledge of their varied patterns and manifestations are essential for early and accurate diagnosis. The knowledge of certain physiologic limitations has permitted anesthesia and surgical intervention in aged patients to an extent not believed possible a few years ago.

Second, the objectives in treating the aged patient and the approach used in providing medical and nursing care differ from those for younger adults. It is often less a question of definitive treatment for a single disease and more one of management of a single individual with multiple problems. The aim may not be for cure of a disease but achievement of functional health for an individual. The nursing programs and paramedical services for the aged, as well as others requiring long-term institutional care, while not well defined at this time, are of necessity different from the general hospital format. There is a greater need for joint planning with other disciplines and recognition that the three basic objectives for the aged include adequate income and purposeful activity as well as functional health. Unmet social or financial needs, or a loss of family or community standing, can be far more disabling than any physical ill.

Third, care of the aged has necessitated a somewhat different physician-patient relationship. Before the extension of life expectancy, and even today, in so far as most young adults are concerned, illnesses tended to be self-limiting and the outcome clearly defined—recovery or demise. In either instance there is little demanded of the patient other than to follow orders and no particular necessity for elaborate explanations of "patient education" by the physician. With added years, beginning in the middle-aged patient and intensified in the aged one, we see an increase in disease states that are prolonged with neither recovery nor death. The physician must not only educate the patient (or responsible relative) but he must ask the patient to accept considerable responsibility in the management of his disease if there is to be effective management. With increasing frequency the patient understands his heart disease, controls his diet and activity, and even his own medication to a considerable extent.

Finally, the extension of life, because it has been largely unplanned for, has created local community, state and national problems. It is becoming necessary for the physician to participate more and more in paramedical and nonmedical areas of community planning if a total comprehensive program of care for the aged is to be achieved. Medicine has become directly involved in the controversy of "methods for financing medical care for the aged," and this may well be the most important domestic issue before the current session of Congress. The physician has a responsibility for development and effective programming of nursing homes and other long-term care facilities. He has a responsibility for promotion of screening programs aimed at early detection of disabling disease and optimal utilization of restorative services. Finally, he has responsibilities for participation in research and education aimed toward providing better care for the aged, and for participating in total interdisciplinary planning for this multifaceted problem.

JACK KLEH, M.D.
Chairman, Committee on Aging

Oral Poliomyelitis Vaccine

The District of Columbia Health Department and the Medical Society of the District of Columbia, after joint consideration, have decided not to advocate administration of oral polio vaccine at this time for the following reasons:

1. If only Types I and II were given now it would necessitate giving Type III when it becomes available.

2. General immunization of a population by oral polio vaccine requires somewhat of a crash program where everyone is immunized at once with one type of the attenuated virus (perhaps during a one-week period). The logistics of the operation are formidable, requiring that other types subsequently be administered at eight-week intervals. In addition, there are technical details which complicate the program, part of which is the unavailability of Type III vaccine. Briefly, it is premature to consider mass inoculation by oral vaccine at this time or in the near future.

3. With the availability and proven efficacy of sufficient dosages of Salk vaccine, it is felt that more and continued effort be made to immunize everyone with the Salk vaccine. Up to now, the full immunization of the population, especially adults, is quite deficient.

At this time both the District of Columbia Department of Health and the Medical Society of the District of Columbia strongly urge that all persons be immunized against polio by Salk vaccine and have booster shots at recommended intervals.

The Committee on Poliomyelitis unanimously recommended that the Medical Society pledge its support to the Health Department in implementing the above immunization program.

These recommendations were approved by the Executive Board of the Medical Society at its meeting on November 20, 1961.

Membership

The following applicants for membership were duly elected to membership by the Executive Board, January 22, 1962, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

Louis C. Brown, Sr., 5555 Chillum Place, N.E.
Andrew F. Burton, 600 11th Street, N.E.
John D. Culberson, George Washington University Hospital
Harrison E. Curtis, George Washington University Hospital
Bernhard J. F. Kramer, Federal Aviation Agency
George N. Polis, 1401 16th Street, N.W.
Martin A. Thomas, 1150 Connecticut Avenue, N.W.
David T. Whitcomb, 3246 P Street, N.W.

Associate Members

Jose Navarrete, 200 North Little Falls Street, Falls Church, Va.
Philip L. Repetto, Jr., 10217 Greenacres Drive, Silver Spring, Md.

Affiliate Member

Donald C. McCollum, 13th and North Hudson Streets, Arlington, Va.

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

IN & OUT OF FOCUS

By the Observer

The Editor and His Staff

Although some readers have undoubtedly looked at the masthead of the Medical Annals, noting the names of those who comprise the editorial staff, our guess is that a majority have not done so. This will explain the reasons for the photographs of the various individuals primarily responsible for the journal which appear on these pages. It seemed to your Observer more readers should become acquainted with the "team" on which the regular appearance of the journal depends. Most of them receive no compensation whatsoever for their services except the satisfaction of playing an important role in its production. Needless to say, they have a genuine interest in medical journalism and a talent for medical writing.

Although the heaviest responsibilities for the Medical Annals fall on the Editor, Dr. Wallace M. Yater, others on the staff make important contributions. Your Observer is the Managing Editor. He is concerned with format, obtaining editorials and writing this column. He also selects special articles which he thinks will be of interest to the readers. These appear in the "back part" of the Annals. Incidentally, all material which appears in the journal must meet with the approval of the Editor. Your Observer cannot refrain from commenting that in all the years he has been associated with the journal his own material never has been censored.

The duties of A. Louise Eckburg, Assistant Editor, are primarily that of seeing to it that the scientific articles are proofread and errors eliminated before publication, giving assistance to the Editor and the Managing Editor as they may require, and preparing news items and other material of a general nature which appear in the Annals. In addition, she supervises the

DR. YATER
Editor

MR. WIPRUD
Managing Editor

MISS ECKBURG
Assistant Editor

DR. BURKE
Editorial Board

DR. FROHMAN
Editorial Board

advertising, seeing to it that advertisements are inserted in the proper place and that they are published in accordance with instructions of the advertiser. Hers are valuable and important functions which she performs most efficiently.

The Editorial Board consists of the following: Drs. Frederic G. Burke, I. Phillips Frohman, Winfred Overholser, Thomas M. Peery, Herbert P. Ramsey, George E. Schreiner, Donald Stubbs, and Charles Stanley White. Scientific papers in their respective fields are submitted to them by the Editor for their comments. In addition, they are frequently called upon to write editorials.

Although the principal responsibility for the ANNALS rests with the above individuals, the Consulting Editors also play an important role. They provide articles written by physicians on the staffs of their respective institutions and are largely responsible for the wealth of material from which the Editor can now make a selection. He is no longer at his wit's end, as he was for years, for the lack of scientific papers. As the saying goes, he is now "in the money."

★

Dr. Finucane Resigns

The people of the District of Columbia suffered a severe loss last month when Dr. Daniel L. Finucane resigned as Director of Health. During his five-year tenure in office he has not only demonstrated his outstanding capabilities as an administrator but as a conciliator of the first order. It is the latter which has played a very important part in his success. However, those who know him need not be told he has never sacrificed convictions for expediency.

No health officer in the District's recent history was better equipped to become Director of Health. For 26 years he had been Medical Director and Superintendent of Glenn Dale Hospital. There he gained experience in hospital administration, which was so essential in a position where he was responsible for the conduct not only of the Health Department but the District Government's hospitals and medical institutions. His long experience in preventive medicine also gave him an insight into the demands upon a health officer, as did his experience with previous Directors of Health under whom he had so long served.

If the departure of Dr. Finucane is a great loss to the community, it is especially so to the medical profession. The relationship between Dr. Finucane and the Medical Society has been most satisfactory; in fact, as Dr. James Spencer Dryden, President of the Society, wrote Commissioner John B. Duncan recently, "Under his [Dr. Finucane's] guidance, the Health Department made splendid progress. To considerable extent this was due to the close coöperation between the medical profession and the Health Department." (Dr. Finucane has served on several committees of the Society. They have been made fully aware of the magnitude of his responsibilities and have given him every assistance possible. This has been equally true of the Executive Board and the Society itself.) At the same time Dr. Dryden informed Mr.

DR. OVERHOLSER
Editorial Board

DR. PEERY
Editorial Board

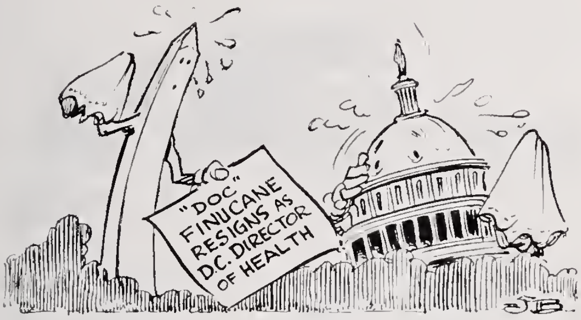
DR. RAMSEY
Editorial Board

DR. SCHREINER
Editorial Board

DR. STUBBS
Editorial Board

DR. WHITE
Editorial Board

Duncan the Society was anxious that the best available health officer be chosen as Dr. Finucane's successor. If desired, he stated, the Executive Board would be glad to submit the names of physicians who could be most helpful to him and the other Commissioners. In the same communication Dr. Dryden also said Deans of the District's medical schools had requested him to say they would be willing to assist in the selection of a new Director of Health.


"DOC" FINUCANE RESIGNS AS D.C. DIRECTOR OF HEALTH
J.B.

"Our loss is The Old Liner's gain"

It will be far from easy to fill the void left by Dr. Finucane's departure. Your Observer has had occasion to work closely with Dr. Finucane and as a result holds him in the highest esteem both as a physician and a man. He has still to talk to a physician who is not of the same opinion. There have been few health officers who have attained such widespread confidence among physicians.

As Dr. Finucane enters upon his duties as Chief of the Bureau of Communicable and Chronic Disease Control of the Prince Georges County Health Department, he can be assured that the medical profession of the District of Columbia wishes for him every success in his new undertaking.

★

Medicine in the Congo

Upheavals in the Congo during the past year have naturally had a profound effect on the medical situation. Following disturbances last July, Dr. Jonathan C. Sinclair reports in the *Ontario Medical Review* for December 1961, a large number of Belgian doctors left that troubled country for their homeland. Shortly prior to their departure (June 30, 1960) Dr. Sinclair states medical personnel in the Congo were as follows:

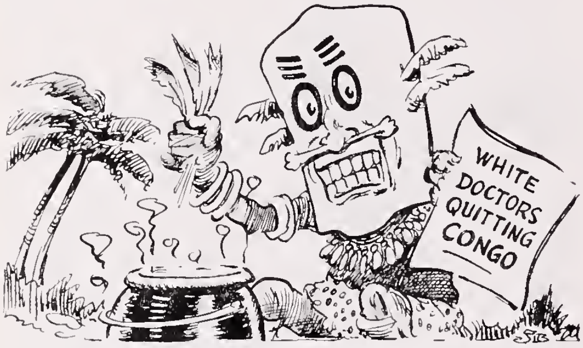
Doctors of Medicine	761
Medical Assistants	136
Pharmacists	75
European Nurses	1,223
Congolese Trained Nurses (male)	1,001
Nurse Midwives (European)	25
Nurse Aides	3,852
Midwife Aides	466

According to Dr. Sinclair, a majority of the 761 physicians were in Government service. However, approximately 320 doctors were either employed by commercial institutions or engaged in mission work. Subsequent to the uprisings, 150 to 200 doctors remained at their posts. None of these were Congolese doctors. The first two native medical students graduated early in 1961 from the University of Louvanium, near Leopoldville.

Medical assistants, of whom it will be noted there were 136, worked in the hospitals and dispensaries throughout the country. They are described as being "unique and specific for the Congo." Their medical education consisted of 4 years' "theoretical training and two years' practical work under a doctor's supervision. Many of the assistants are described as being helpful and intelligent and with several years' special training would probably obtain a medical degree, valid for work in the Congo." Others, Dr. Sinclair reports, were politicians and obstructionists who were convinced that with "the advent of Independence they should be granted a medical degree immediately."

A majority of the 1,223 European nurses were "religious sisters." They remained in the Congo despite serious incidents and reportedly rendered splendid service to Congolese patients, frequently in very difficult circumstances. Congolese-trained nurses with few exceptions had received a three-year theoretical course, which was followed by two years of practical training. A few have become hospital administrators.

Annually, Dr. Sinclair states, the medical census is taken of the 14 million people in the Congo, the purpose being to screen the population for leprosy, yaws, venereal disease and malaria. The survey groups are held responsible for arrangements for treatment of all patients diagnosed.



"I'm back in business again!"

There are extensive immunization programs against smallpox, yellow fever and poliomyelitis. In 1959 five million Congolese were examined and four and one-half million either vaccinated or revaccinated.

The incidence of leprosy, it is reported, is approximately 2 per cent of the population. Most lepers are ambulatory cases. However, where they are crippled or do not respond to treatment, they are hospitalized.

Tuberculosis is another endemic disease in the Congo. Fortunately, there is a low mortality rate since the development of modern chemotherapy.

Malaria is still a major health problem, there being over 959,000 cases in 1959, with 2,209 deaths.

Trypanosomiasis (sleeping sickness) and filariasis were reportedly endemic in the province of Equateur.

During the three months he and his associates were in the Congo, Dr. Sinclair reports, there was "no case of coronary disease seen amongst the Congolese."

Cirrhosis of the liver was common, with approximately 15 per cent of the beds in the male medical wards being occupied by such patients.

As to the hospital facilities, Dr. Sinclair submits the following, which he states existed as of June 30, 1960:

	No. of Hospitals	No. of Beds
State	1,592	38,115
Subsidized by State	731	32,854
Private	853	16,573
TOTAL	3,176	87,542

The bed to population ratio is reported as 6.2 per thousand. Beds in general, maternity, and mental hospitals number 73,871, a ratio of 5.3 beds per 1,000 population. The remaining beds are available in specialized institutions for the treatment of patients with tuberculosis, leprosy or sleeping sickness.

Obviously, the greatest need is for competent physicians. Dr. Sinclair estimates it will probably be 10 to 15 years before there is a sufficient number of Congolese doctors to take over the country's medical program. The World Health Organization has increased the enrollment of medical undergraduates at Louvanium University from 20 to 40. Sixty Congolese medical assistants have been chosen for an advanced three-year course in France.

★

Should Doctors Retire

Doctors, like other people, differ on the subject of retirement. Most of them, it seems, do not look forward to it with any degree of enthusiasm. In fact, those with whom your Observer has discussed the matter insist they will not retire unless they are forced to do so.

Few retired physicians, in your Observer's experience, have found the contentment anticipated. An exception was a former President of the District Medical Society, who in his 70's retired to a farm in nearby Virginia. Your Observer had occasion to visit him a number of times and was satisfied that this man was completely happy. Being of an intellectual bent, he found great satisfaction in books. He loved nature and took long walks with his dog. He also enjoyed conversation on literature, religion and history with friends who visited him. There was never any indication that he had regretted his decision to retire.

On the other hand, there was the physician who was forced into retirement because of illness in his family and the necessity of vacating an office in which he had practiced for many years. Now, in his 80's, he is an unhappy man still hopeful of returning to practice.

One of the most serious aftermaths of retirement without planned activity has been physical and mental deterioration. In this respect doctors are, of course, no different than their patients. They too go "down hill" if they have no incentive to do something worthwhile.

These reflections were stimulated by a survey reported in the *New Medical Materia* for January. The study was based on a "Nationwide sample of physicians" in an effort to ascertain their views about their retirement. The following questions were asked, with the results indicated:

Should doctors retire on reaching a certain age?

58.9 per cent said "No" and 41.1 per cent said "Yes."

When should doctors retire from practice?

49.6 per cent of those favoring retirement stated it should take effect between ages 65 to 69; 28.3 per cent stated 70 to 74 years of age. Of the others, 13.0 per cent believed that 60 to 64 years is the proper period; 5.4 per cent said 75 and over, and the remaining 3.7 per cent had no suggestions to offer.

At what age should you begin to taper off?

34.2 per cent stated 60 to 64 years; 16.6 per cent said 65 to 69; 2.2 per cent stated 70 to 74 years; 25.9 per cent had no opinion. A small minority held views which were not particularly significant.

What's the best way to taper off?

62.4 per cent favored taking more frequent vacations; 61.2 per cent stated they were in favor of fewer work hours a day; 43.8 per cent thought fewer work days a week would be desirable; and 24.5 per cent responded that longer vacations would be the best method.

When should you notify patients of your retirement?

21.7 per cent said one year in advance; 32.4 per cent said 6 to 8 months; 20.2 per cent stated 3 to 5 months; and 16.8 per cent said 1 to 2 months.

"Is there a doctor in the houseboat?"

There were, of course, questions unanswered in the study. For example, physicians responding were not broken down into their fields of practice. This would have been revealing. In most instances the span of a surgeon's career is considerably shortened because manual dexterity is essential. On the other hand, a general practitioner or an internist can continue in practice until he is physically or mentally incapacitated. However, such information would not have altered the finding that most doctors wish to carry on to an advanced age if at all possible.

★

Unlabeled Bottles

"In the course of nearly forty years in the practice of medicine," writes Dr. Harold J. Harris in *Harper's Magazine* for January, "I have come to regard an unlabeled bottle as a serious menace. . . . I recall one tragic New Year's Day when neither the druggist nor the prescribing doctor could be reached; the patient died after a large dose of digitalis. She was already getting the drug although there was no way of knowing this when the emergency call was made. In another critical case, I was assured by both the patient and her husband that she was not taking any heart medicine. I had my needle in her vein ready to give what might have been a lethal dose when doubt assailed me. The husband produced a bottle of pellets whose size, shape, and color made it possible for me to identify them as the digitalis preparation of a well-known company.

"When we discussed this narrow escape the next day, it seemed clear that her physician had felt the patient might be alarmed if she knew she was being treated for a heart ailment. In my opinion there could be no more fallacious line of reasoning. No one can be sure that his family doctor, who knows all about the little green pills, will always be available when needed. Mysterious little boxes of unlabeled drops and pellets are not good traveling companions.

"It seems ... strange to me that doctors don't tell and patients don't ask...."*

Dr. Harris recounts other incidents which he states serve to emphasize dangers to the patient ignorant of the drugs he is taking.

In reading Dr. Harris' warning a related danger occurred to your Observer—the hazard of allowing prescribed drugs to gather dust in the medicine cabinet. Many of these drugs have often been prescribed so long ago that the individual cannot remember their purpose, and their labels are not specific enough to refresh the memory. Of course, a call can be made to the drug store to ascertain the contents of the prescription. However, this practice is questionable because the drugs may have deteriorated or there is no longer any need for their use. The safe thing for the individual is to discard medicines which have served their purpose unless advised to the contrary by his physician.

If the physician accepts Dr. Harris' premise and acts upon his suggestions, he might well do a little missionary work as regards danger lurking in medicine cabinets.

T. W.

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Woodley House—A Pioneering Mental Health Project

Recent developments in psychiatry, including the advent of the tranquilizing drugs, have made it possible for increasing numbers of patients to be managed outside of the mental hospital. For some patients hospitalization is no longer necessary; for many others a return to community living is possible after a shortened period of treatment in the hospital.

These new developments have served to highlight the need for a wide range of community facilities since many of these patients, although they no longer need the mental hospital, still require special attention if their adjustment to outside living is to be successful. One facility which has appeared to fulfill a special need is the "Halfway House." This is a living unit for patients whose psychologic problems are not so severe as to require hospitalization but who still have difficulty adjusting to independent living or living with their own families.

Although it is usually thought of as a place for patients who are leaving the hospital, the Halfway House can be equally effective as part of a program for selected individuals whose illnesses have not yet led them into the hospital. The well-run Halfway House can provide an understanding and congenial environment oriented toward health rather than illness, which is often crucial in establishing a pattern of effective living.

The establishment of a Halfway House in Washington, D. C. had long been an active interest of Miss Joan Doniger, an occupational therapist with wide experience in working with psychiatric patients. After a year of organizational effort, and with the support of a number of well known psychiatrists and leaders in the community, Woodley House was established in January of 1959 as a pioneering Halfway House in the Washington area. Woodley House is a nonprofit undertaking with the parent body incorporated as the "Potomac Residence Club." The House itself (which is rented) is attractively and conveniently located in the Northwest section of the city, with a capacity of 10 residents.

The staff consists of Miss Doniger, who is the Director, a full-time assistant, and part-time domestic and secretarial help. Other professionals are available for consultation as needed, and a Board of Trustees furnishes both professional and lay support.

The relatively small capacity of the House is regarded as an asset as well as a liability; small size is essential if close personal contact is to be maintained and a cohesive group of residents established, and this same size limits potential income and multiplies financial problems. Overall, it is thought that a house with 15 residents would still preserve the possibility for close personal contact with more financial flexibility.

Persons who live at Woodley House are regarded as residents rather than patients. No treatment is offered by the staff of the House, and each person is responsible for himself and his conduct. Approximately equal numbers of men and women are in residence, with bedrooms situated on separate floors. A family type of atmosphere is fostered; the residents all take their meals together at the House, and the large living room and recreation room with TV are shared. Group activities, such as picnics and theatre parties, are encouraged. Reasonable rules of behavior are enforced by the Director under the ultimate penalty of enforced departure from the House, but the prevailing attitude is one of tolerance and acceptance of individual differences, with mutual support when problems arise.

A person comes to Woodley House by referral from a psychiatrist, a hospital, or other agency. Prospective residents must be seeing a therapist on a weekly basis as a minimum, and the therapist must stand ready to take responsibility for his patient and to make alternative arrangements in case residence at Woodley House does not prove to be feasible. Decisions on admission are made by the Director after such consultation as may be appropriate.

Woodley House has what is believed to be a unique fee system in that the fee is geared to employment in a reverse fashion. Those patients who are fully employed pay the smallest fee, those who are unemployed (and thus at the House all day, requiring attention) pay the largest fee. Employment is construed rather liberally to include also volunteer work and school attendance. Fees at present range from $151 to $300 per month.

During its first year of operation Woodley House experienced considerable difficulty in obtaining referral of suitable patients despite an active program of information with professional people. It was eventually concluded that the facility should be made known to prospective patients and their families, and a judicious public relations program with newspaper publicity was undertaken. Since that time there has been a continuous waiting list for admission to the House. More than 30 residents have now had a stay at the House of widely varying length. One person has remained in the House throughout its operation to date.

The survival of the House during its crucial and difficult first year of operation was made possible by the generosity of the Eugene and Agnes Meyer Foundation. In the fall of 1960 the National Institute of Mental Health awarded the House a research grant of $101,000, covering a three-year period. With this grant a research team will study the operation, structure, and detailed working of this type of psychiatric residence club in order to more closely define the types of things which occur and the ways in which they appear to be of value.

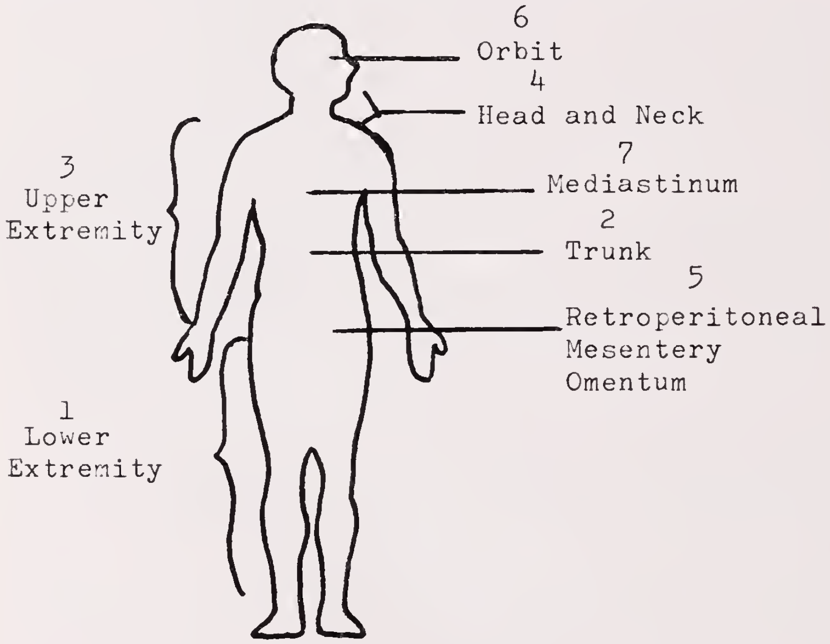
It is believed that Woodley House represents a significant forward step in the provision of facilities which promote mental health and reduce the need for hospitalization.

George W. Metcalf, M.D.
Member, Board of Trustees, Woodley House

Doctor!

Although malignant tumors of the soft somatic tissues (sarcomas) are uncommon (420 in 35,812 reported cancers), it is likely that you will encounter one or more during your medical career. Please remember that they occur most frequently in the locations diagrammed below, that they are symptomless and insidious, and that there are at least 21 varieties (see classification below) which vary greatly one from the other in biologic behavior, metastatic frequency, metastatic patterns, and metastatic routes, and thus in potential lethality. All must be discovered early if the best possible results of therapy are to be achieved.

Distribution of Soft Tissue Sarcoma in Order of Frequency of Occurrence



COMMON SOFT TISSUE SARCOMAS

Fibromatoses
Differentiated Fibrosarcoma
Malignant Fibrosarcoma
Myxoma
Liposarcoma
Leiomyosarcoma
Rhabdomyosarcoma
Malignant Organoid Granular Cell Tumor
Malignant Hemangioendothelioma
Malignant Hemangiopericytoma
Lymphangiosarcoma
Kaposi's Sarcoma
Synovial Sarcoma
Osteogenic Sarcoma
Chondrosarcoma
Reticulum Cell Sarcoma
Plasmacytoma
Malignant Giant Cell Tumor and Xanthogranuloma
Malignant Mesenchymoma
Malignant Schwannoma
Neuroepithelioma

Reference:

CA—A Cancer Journal for Clinicians.
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Hospitals, Doctors and Dollars*

ROBERT M. CUNNINGHAM, JR.
Editor, The Modern Hospital

MY ASSIGNMENT here is to talk to you about the social and economic environment in which you are practicing your profession and, especially, the social and economic phenomena of our time that relate directly to the practice of medicine. It is customary, if not compulsory, on occasions such as this to point out that scientific and clinical medicine have been spectacularly successful in recent years but that medicine has fallen behind the pace of social and economic change. Now I don't want to flout convention by neglecting to mention this, but I will put it a little differently and say that my reporter friends who write about medical science have had a notably happier time in the last 15 years than I have had, writing about medical and hospital economics. For the most part, I have been reporting events that many readers wished were not happening, and I've discovered over the years that when I do this the onus is somehow transferred from the events to the reporter, and readers blame me for what is happening. Even those who understand that it isn't all my fault can get a little sour: People have often asked me, "Why don't you write about something good?" and usually the only answer I can think of is, "When is something good going to happen?"

Actually, it isn't my task, here or elsewhere, to determine what is good and what is bad, but only what is important and thus reportable. So if I say some things here today that you'd rather not hear, which I expect I shall, I hope you won't blame me for the events themselves—though I suspect some of you will.

Chiefly as it affects and interests you, then, the swing or trend of events has been toward more Government aid, more security, more institutionalization, more regulation, more planning, more group action as opposed to individual initiative, more of everything that is often called socialistic—although used in this way the term is pejorative rather than descriptive, since many of these things have nothing to do with socialism. I think we all understand that this trend is discernible not only in medicine and the medical environment; rather, it is characteristic of the whole of our society. To a much greater extent than many people realize, it has even affected the business community, which we like to think of as a great fortress of individuality. The wave of corporate mergers we have seen in recent years foretells a wave of rising bureaucracy, or management by routine, in business; the men at the top have great initiative, still, but there are fewer and fewer "tops." Moreover, it has been my observation that many businessmen are not uniformly unfailing in their role as champions of free enterprise. The dairyman wants free enterprise for everybody but the oleomargarine industry, and the trucker wants it for everybody but the railroads, and so on. One man's interference is another man's protection. In all fairness it should probably be noted here that businessmen share this aberration with many others; for example, doctors commonly abhor Government regulation—but not regulation of osteopaths.

Some observers today think they see signs that things are going to turn around and go the other way, toward less security, regulation and bureaucracy. Whether we believe this is true or not may depend more on our view of history than on our immediate social or political bias. If the trend of events was not initiated by one man, or a little group of men, here in Washington 28 years ago, then it isn't going to be turned around by one man, or a little group of men, in Washington, or Chicago, or Los Angeles, or Arizona, or wherever. If the trend instead is part of a world-wide sweep of events that has been going on for 2,500 years, at least in our Western culture, then it isn't likely to reverse itself here and now.

INFLUENCE OF HOSPITAL ON MEDICAL PRACTICE

Happily, the full sweep of Western history is outside my jurisdiction. I worry about it, as we all do, but I don't have to report it here. What I do have to report instead are a few of the crosscurrents or riptides that are related directly to your interests and your practice. The first of these is the increasing institutionalization of medicine. This has several aspects, but the most obtrusive and important one, and the one I want to talk about here, is the ever-growing influence of the hospital on the practice of medicine. There have been several contributing causes for the growth of this influence, as I see it. One of them, certainly, is prepayment, which I shall talk about a little later on. But I think the most important contributing cause has unquestionably been the constant advance of medical science and the consequent proliferation of medical technology. To state the proposition in its simplest terms, you can't carry a cobalt machine in your car. You probably couldn't buy one, either; it costs $40,000, and then you have to hire someone to operate it, and so you give up a little of your independence here and let somebody else buy the machine and hire the people to run it, and you have had to do this over and over again as medicine has become more and more specialized and mechanized and transistorized over the years. Some measure of the extent to which you have come to depend on the hospital technology may be indicated by this parameter: When I first started to report hospital affairs 16 years ago, the Public Health Service standard for hospital design was 350 square feet per bed for all services, and at that time a designer who planned a hospital with 400 square feet per bed was regarded as extravagant, if not out of his mind. Today the Public Health Service standard is 650 square feet per bed, and many of the new hospitals have as much as 700 square feet per bed, or even more, and if you have seen some of the new electronic physiological monitoring systems, as I'm sure most of you have, you can readily understand that it won't be long before we shall need 800 or 1,000 square feet per bed—just to house all the machines and equipment and supplies and jobs and people that it takes to provide medical care today.

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* Address delivered at the Opening Day Luncheon of the 29th ANNUAL SCIENTIFIC ASSEMBLY of the Medical Society of the District of Columbia at the Hotel Statler-Hilton in Washington, D.C., November 27, 1961.

Inevitably, the burgeoning technology of specialization has resulted in the development of a corporate bureacracy in hospitals, just as specialization did in industry a hundred years ago following the Industrial Revolution. The person at the head of the hospital is no longer the nurse who leaped to obey every command of the charismatic surgeon, who was the real man in charge; instead, the chief of the corporate hospital bureaucracy today usually has been trained in accounting and personnel and purchasing and management and a half-dozen other business disciplines, and he is beginning to think seriously about programming the elements involved in hospital administrative decisions, so the whole thing can be done with computers. In this kind of corporate setting the doctor tends to become another factor to be appraised rather than a leader to be followed, or a god to be revered.

Of course, this hasn't happened at all in some hospitals—especially, perhaps, in smaller communities, where the chief physician or surgeon is still the man in charge—and perhaps it hasn't happened completely anywhere, even in the huge medical school complexes where the functions of teaching and research add their own enveloping layers of bureaucracy and administrative authority. But this is what is happening, nevertheless; the trend is toward less authority for the individual physician, because in our society private authority ultimately resides with ownership, and in most hospitals the governing boards or trustees who stand in the place of owners are represented by the administrators rather than by individual physicians. Obviously, there are opportunities for conflict here, and we have all seen such conflicts erupt in lawsuits about hospital privileges, and charges about the corporate practice of medicine, and especially, perhaps, in wrangling about the relationship of hospitals to pathologists and radiologists. But in most hospital situations I have observed, the transfer of authority from the individual physician to the corporate bureaucracy is being accomplished in an unobtrusive, orderly, reasonably amicable fashion, with physicians using the mechanisms of medical staff organization to retain authority where it is needed, in patient-care and other professional matters, and with the corporate bureaucracy exerting its residual authority only when the staff organization mechanisms fail to work—sometimes, it should be noted, because the staff organization itself may take on the characteristics and limitations of bureaucracy. In the view of physicians, this may not be the best of all possible worlds, but, with the demands of technology encroaching on what the sociologists like to call your "private entrepreneurial professional selfhood," it may be the world you'll have to settle for, and, for reasons that I'll come to in a minute, I think it may be wise for you to try to understand it and accept it and make it as orderly and efficient as possible.

MORE COVERAGE UNDER PREPAYMENT PLANS

First, however, I'd like to examine another of the riptides that has been carrying you along, sometimes against your will—the one called prepayment. With 128,000,000 people now paying some substantial part of their medical expenses through some kind of prepayment plan, it seems to me we must accept as simple truth the proposition that this is the way most people want to pay their medical bills. There is also evidence to suggest that people want to pay a greater share of their medical bills through prepayment, and there is plenty of evidence, if we need any, suggesting that prepayment is sufficiently vested with public interest so as to command the continuous, alert scrutiny of legislators, governors, insurance commissioners, welfare officials and others who have some power to determine the direction medical prepayment development may take in the future.

The direction prepayment is likely to take is suggested, at least generally, by the experience of Federal employees participating in the Health Benefits Program that was inaugurated in July 1960. As I'm sure you here in Washington know better than most others, the 2,000,000 eligible Federal employees uniformly chose optional benefit programs providing more coverage at higher cost. You may remember the figures: Fifty-four per cent of the families chose the plan whose cost to the employee was $151 a year; 26 per cent chose the program that cost $128; 13 per cent chose the $89 program; and only seven per cent the cheapest program—at $81. The conclusion seems inescapable that people want more medical services covered by prepayment and are willing to pay more for the additional coverage, as long as they are convinced they're getting their money's worth, and the two to one preference for Blue Cross-Blue Shield indicates where they think they get the most for their dollar. Incidentally, an interesting aspect of the Federal employees' experience was that families in the lowest income group, below $4,000, chose the more comprehensive, and more expensive, options in almost exactly the same proportions as those in better circumstances did.

The prepayment experience of another large group, the steelworkers, gives us a clue as to what some people, at least, consider to be the shortcomings of some of the popular prepayment plans now available to them. In a detailed report released by the Insurance, Pension and Unemployment Benefits Department of the United Steelworkers of America last year, four major problem areas were identified. These were:

1. Inability of the group to reach agreements with Blue Shield Plans and doctors on fee schedules to be accepted as payment in full for service benefits rendered.
2. Rising costs of the insurance attributable to inadequate control of the quantity of hospital and surgical service rendered.
3. Comparative experience suggesting that steelworkers covered by the so-called comprehensive prepayment plans were getting greater benefits at lower cost.
4. Failure of the plans to cover the full range of services required by steelworkers and their families, and inadequate guarantees of the quality of medical care provided.

As written in the report, some of the charges or complaints were faintly reminiscent of the recently published book entitled "Impartial History of the War Between the States from the Southern Point of View," but it would be a serious mistake to dismiss them as prejudicial, because there is evidence, in the steelworkers' experience and elsewhere, that many if not most people do understand and want the real protection afforded by service benefit contracts; and there is substantial evidence that failure to control hospital admissions and use of hospital facilities has added a measurable amount to the cost of hospitalization protection.

The evidence that the so-called comprehensive group practice plans may provide more benefits at less cost than Blue Cross-Blue Shield or insurance is worth studying. Steelworkers covered under the Kaiser Foundation Health Plans in California had 90 inpatient hospital admissions per 1,000 insured persons from July 1, 1957, through June 30, 1958, compared to 135 inpatient hospital admissions per 1,000 insured persons under Blue Cross-Blue Shield, and a still higher rate under commercial insurance coverage. The Kaiser group used 570 hospital days per 1,000 insured persons in the year studied, compared to 1,032 inpatient days per 1,000 insured persons in Blue Cross-Blue Shield. Another statistic that impressed the steelworkers was the fact that there were 69 inpatient surgical cases per 1,000 persons insured under the Blue Shield contract, and only 33 inpatient surgical cases per 1,000 insured persons under the Kaiser Plan. These figures must represent either an astonishing variation in health standards in and out of California, or a disposition on the part of some Blue Shield surgeons to regard the hangnail as an operating room procedure.

Now some observers think comparisons like this—and there have been other, similar reports—mean that we should rush out and start organizing more comprehensive, group practice prepayment plans all over the place, but I don't think this is the case at all. I think it does mean that Blue Cross and Blue Shield have got to extend their benefits more rapidly to cover service on an outpatient basis, as many plans have started to do, in order to eliminate hospital admission as the coupon or box-top that has to be turned in in order to get all the services paid for. Whenever I mention this to a group of hospital or Blue Cross-Blue Shield people, they start shaking their heads and telling me how complicated and difficult this is going to be, and I'm sure it isn't easy, but it had better be done—and quickly—because the police are looking on. There are some insurance commissioners, and some state legislators, who think those differences in surgical admission rates, for example, represent not variations in economic efficiency but variations in medical honesty. We have now had legislative inquiries into the operations of Blue Cross, Blue Shield and hospitals in New York, Pennsylvania, Maryland, Ohio, Michigan, Colorado, and a few other states, and it simply isn't sensible to think that this is the end. It may be only the beginning, but it seems likely that the better the job existing prepayment plans can do in meeting the demand for more comprehensive coverage, the slower will be the parade of public officials into, and through, your hospital corridors and accounting offices.

RATIONALE OF RISING HOSPITAL COSTS

This relates directly to the point I made a little while ago about the advisability of accepting and helping to guide the processes of institutionalization. One of the facts of life you have to face today is that the public is more knowledgeable and sophisticated and critical about medical care than it has ever been before, and it is a part of the trend of events of our time that public dissatisfaction is rather quickly expressed, then heard and acted on by public officials. Neither the public nor public officials care very much whether the dissatisfaction is with the cost and conduct of hospital care or the cost and conduct of medical care. In your own professional circles you make a careful and proper distinction between the management of medical facilities, on the one hand, and the medical care rendered in these facilities, on the other, but I can assure you that the public makes no such distinction at all. In the public view the problems of medicine and hospitals are indivisible. Thus, when you permit the processes of institutionalization of medical care to irritate or disaffect you, as happens sometimes, you may be contributing to a dissatisfaction that could result eventually in statehouse control of medicine—a form that may be considered less odious than White House control, but not very much. For example, you know, or should know, or can easily find out, the rationale of rising hospital costs in our time; if you can't, or won't, explain it to your patients, nobody else can do it as effectively, and the rising tide of dissatisfaction that results may hamper and harass you as much as it does your hospitals.

Why do we have these problems? Why is the public more sophisticated, and more critical, about medical care than it has been in the past? I know some doctors think the reason people are more critical is that they have read critical articles in newspapers and magazines, but I don't think this is a very important reason, and actually there aren't very many articles about doctors and hospitals that are critical compared to the vast flow of favorable information reporting new and better scientific achievements, new and better drugs, new and better cures, new and better diagnostic methods, new and better hospitals, new and better everything.

A far more important reason, it seems to me, is the change that has resulted inevitably from the increasing specialization and fragmentation of medicine. The traditional, one-to-one relationship of doctor and patient, with total responsibility on one side and total confidence on the other, hasn't vanished altogether, of course, but it is simply not the prevailing relationship any more. The processes of medical care are shared today among specialists and consultants and colleagues and assistants and technologists and technicians and others, and this means the responsibility is also shared to some extent, and the confidence is divided accordingly. I think most people understand that there are more gains than losses involved here; most people understand that the antibiotic is an excellent substitute for the cool hand on the fevered brow, for example, and most people understand that the spectrophotometer is an improvement on the naked eye. But there is some emotional loss here, unquestionably, and by that much the value of the patient-physician relationship has been diminished. Both patient and doctor may regret this, but I don't think there is much we can do about it now, except try to understand it and, wherever it can be done, ameliorate its effects. As a practical matter, for example, I would suggest a concerted effort on the part of the physician in charge to cut down the number of consultants, assistants, residents, junior residents, interns, clerks and medical visitors from Chile who come into the hospital room to palpate the spleen.

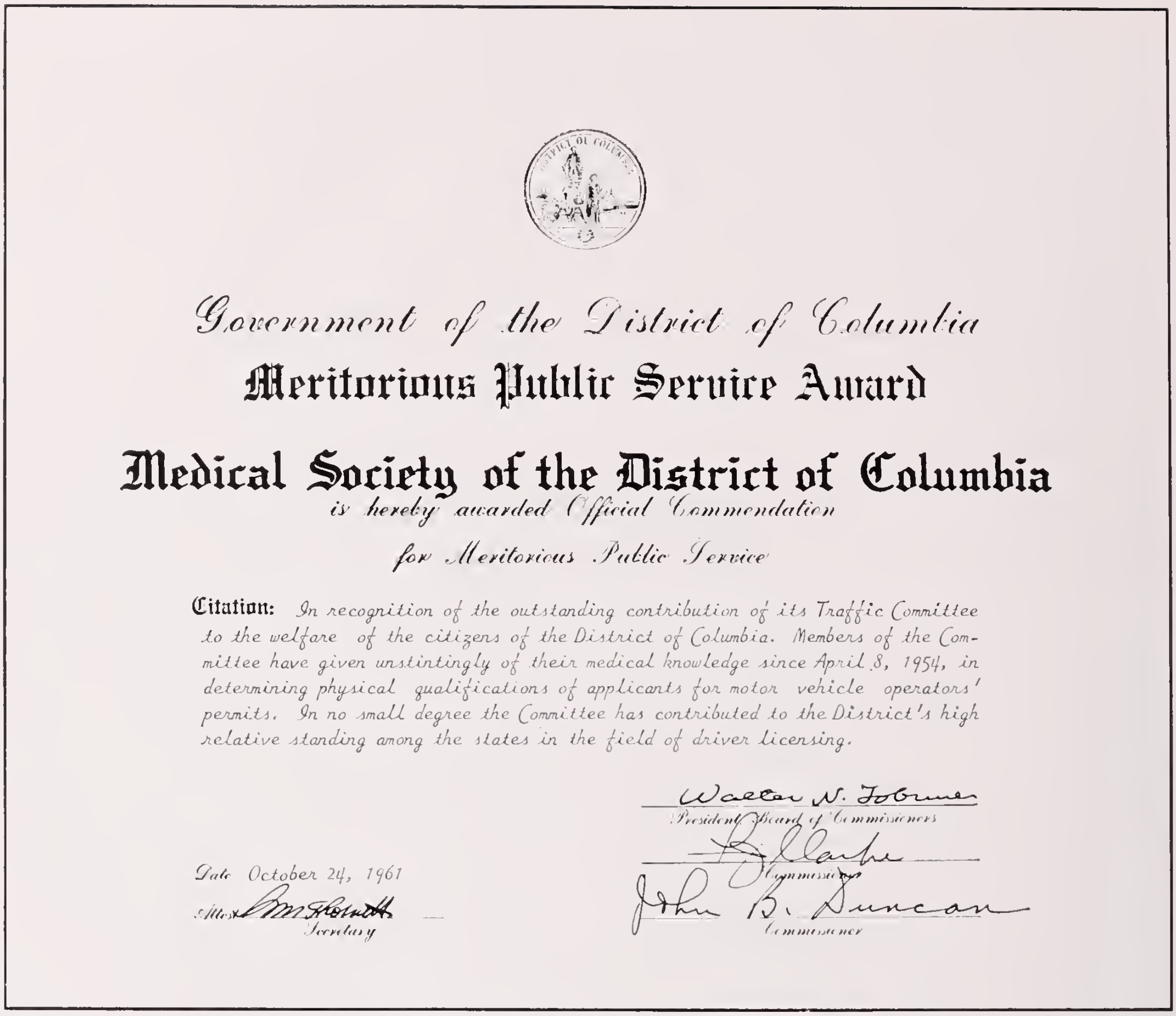
IS THE PROBLEM "PUBLIC RELATIONS"?

It is customary in the medical and hospital bureaucracies to think of these problems that have arisen in the relationship of doctors and patients and of the medical world to the outside world as "public relations problems" and to consider that all we need, really, is better public understanding of your unquestioned virtues and accomplishments. Well, it is hard to quarrel with the desirability of better public understanding of anything, and it is not my intention here to argue that hospitals and doctors don't need public understanding and support as much as schools and colleges do, or business, or government, or any other segment of our society. But I do think you need to be warned against expecting too much from improved public understanding, or leaning too heavily on the comfortable belief that public misunderstanding is responsible for most of your problems. The fact of the matter is that during all the years I have been attending hospital and medical meetings and reporting medical affairs, physicians and hospitals have had access to, and have often used, the same highly polished public relations methods and techniques that are employed by business, and government, and labor unions. The brochures and press releases and television programs and moving pictures about doctors and hospitals are just as near to bright perfection as are the programs of other groups, and, in fact, all the textbooks on public relations methods include at least one medical society campaign as a shining example of how to do it.

Why haven't all these campaigns, then, all the time and effort and money that have been expended to create a favorable public impression of hospitals and doctors, resulted in the universal hosannas you so richly deserve? Why instead are you increasingly troubled with complaints about your services, and your high costs, and with suggestions that your operations should be investigated by public bodies, if not actually controlled and regulated by public law?

A part of the answer, it seems to me, lies in a misconception of what the problem is and where the solution must be sought. If it is actually true that the physician no longer occupies the place of honor that he once had in the community, and I do not agree for a minute that this loss of respect is nearly so widespread nor so devastating as many doctors seem to think, then it seems to me that the causes, again, lie deep in the changing nature of our society, and the remedy is not going to be found in the application of some high public relations polish to the surface of the profession.

There was indeed a time—well within the recollection of most of us here—when the physician was universally revered, not just because he delivered babies and set fractures and cured pneumonia but also because he was the community savant who could read Greek and play the violin and arbitrate family problems. What has happened since that time is that the cultural status of the physician, compared to the rest of the community, has been leveled somewhat—in part because the rest of the community has gone to college and learned medicine from the *Reader's Digest*, and in part because advancing medical technology has kept the physician so busy keeping up with his specialty that he scarcely has time to learn English, let alone Greek, and in part because nobody listens to the violin any more except on TV, and in part because families crack



Government of the District of Columbia

Meritorious Public Service Award

Medical Society of the District of Columbia

is hereby awarded Official Commendation

for Meritorious Public Service

Citation: In recognition of the outstanding contribution of its Traffic Committee to the welfare of the citizens of the District of Columbia. Members of the Committee have given unstintingly of their medical knowledge since April 8, 1954, in determining physical qualifications of applicants for motor vehicle operators' permits. In no small degree the Committee has contributed to the District's high relative standing among the states in the field of driver licensing.

Walter N. Tobriner
President, Board of Commissioners

Clarke
Commissioner

John B. Duncan
Commissioner

Date October 24, 1961

Attest
Secretary

SOCIETY RECEIVES PUBLIC SERVICE AWARD

Presentation of the above Award was made in the office of Mr. Walter N. Tobriner, President of the District's Board of Commissioners. On hand to receive the Award were Dr. J. Spencer Dryden, President of the Medical Society of the District of Columbia, Dr. Herbert S. Gates, Chairman of the Traffic Committee, and Mr. Theodore Wiprud, Secretary of the Society. In making the presentation for the District Commissioners, Mr. George England, Director of Vehicles and Traffic of the District of Columbia, expressed appreciation to the Traffic Committee for its outstanding public service. The two other Commissioners, Brig. General F. J. Clarke and Mr. John B. Duncan, were also present for the ceremonies.

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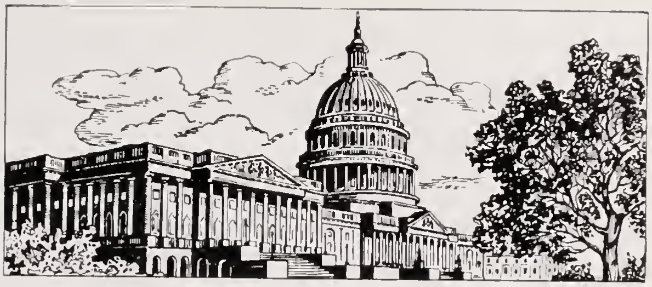
up before their problems can be arbitrated, and in part because the same physician who delivers babies doesn't set fractures, and the one who sets fractures doesn't cure pneumonia.

So of course the patient-physician relationship has changed, and the emotional climate in which you carry on your practice has changed just as much as the physical environment has, and you are getting lawsuits where you used to get nothing but gratitude and hallelujahs. But these are not just public relations problems, susceptible of solution with bright lights and four-color printing; they are the result of deep-rooted changes in the social organism. They need to be studied and analyzed and dealt with just as you would study and analyze and deal with any diagnostic problem

(*Continued on page 186*)



NEWS & PERSONALS

Meetings

The American Cancer Society of Montgomery County, Maryland, and the Montgomery County Medical Society are co-sponsoring a **Physicians' Cancer Conference**, to be held on Thursday evening, March 29, in the auditorium of the Clinical Center, National Institutes of Health, Bethesda, Md. Members of the Medical Society are urged to attend. Efforts will be made to fulfill the requirements of the American Academy of General Practice for postgraduate training credit for members who attend the meeting.

The American College of Surgeons will present its final 1962 **Sectional Meeting** in Washington, April 16–18. This meeting, which will be held at the Sheraton-Park Hotel, is open to all members of the medical profession.

Dr. Robert J. Coffey, Professor of Surgery at Georgetown University, is Chairman of the Advisory Committee on Local Arrangements. The committee has planned a program of interest to general surgeons and surgical specialists. Subjects will include occlusive arterial disease, gastrointestinal bleeding, endocrine disorders, coördinated care in severe trauma, surgery of the biliary-pancreatic tract, and new procedures in pediatric and geriatric surgery.

Guest speakers from out-of-town will include Dr. Ralph A. Deterling, Jr., Boston; Drs. Eugene F. Poutasse and Stanley O. Hoerr, Cleveland; Drs. Howard A. Patterson and Frank Glenn, New York; Dr. Albert O. Singleton, Jr., Galveston; Dr. John S. Stehlin, Jr., Houston; Dr. Fletcher D. Woodward, Charlottesville, Va.; Dr. D. Emerick Szilagyi, Detroit; and Dr. Raleigh R. White, Temple, Texas.

Of special interest to physicians concerned with cancer programs will be the all-day Cancer Workshop, sponsored by the College's Cancer Committee, to be held at Sibley Memorial Hospital on April 18. Dr. Calvin T. Klopp, Director of the George Washington University Cancer Clinic, will preside.

The following Washington physicians will participate in the scientific program: Drs. Paul S. Putzki, Murdock Head, Charles A. Hufnagel, Irving B. Brick, William S. McCune, Harry L. Claud, Jerome F. Crowley, Henry H. Balch, Edwin J. Pulaski, Robert J. Coffey, John W. Walsh, Calvin T. Klopp, Humbert L. Riva, George W. Hyatt, William J. G. Davis, Frank S. Ashburn, Philip A. Caulfield, Fred R. Sanderson, Alejandro F. Castro, Roger C. Baker, Neville K. Connolly, Donald Stubbs, and Brian B. Blades.

Dr. Head's paper on "The Surgeon and Medicolegal Problems" will open the meeting on Monday, April 16, at 9:30 a.m. A feature of the second day, April 17, will be the Fellowship Luncheon, when Dr. Robert M. Zollinger, President of the American College of Surgeons, will preside. The meetings will close on Wednesday afternoon with a Symposium on "What's New in Geriatric Surgery," with Dr. Blades, Professor of Surgery at George Washington University, presiding.

The Cardiac Symposium, sponsored jointly by the Heart Association of Northern Virginia and the Washington Heart Association, will be an all-day meeting on Wednesday, April 25, in the Medical

Society's auditorium. Distinguished guest speakers will take part.

Following registration at 8 to 9 a.m., the first speaker, Dr. Paul D. White, of Boston, will deliver the opening address on "Atherosclerosis Around the World." He will be followed by Dr. F. Mason Sones, Jr., of Cleveland, who will speak on "Cineroentgenology of the Coronary Arteries." Also at the morning session Dr. Thomas W. Mattingly, Washington, will be moderator for a Panel Discussion on Coronary Artery Disease.

Luncheon will be held at the Statler-Hilton Hotel, with Dr. J. Scott Butterworth, President of the American Heart Association, as guest speaker.

At 2:00 p.m., Dr. James V. Warren, Professor and Chairman of the Department of Medicine at Ohio State University, will speak on "Mechanism of Heart Failure." He will be followed by Dr. George E. Burch, Professor and Chairman of the Department of Medicine, Tulane University; subject, "Environment and Congestive Heart Failure."

The program will conclude with a Panel Discussion on Congestive Heart Failure, with Dr. John W. Roark, of George Washington University, as moderator.

Dr. W. Proctor Harvey, Washington, and Dr. James M. Moss, Alexandria, Va., are co-chairmen of this meeting. It is acceptable for four hours of Category I credit by the American Academy of General Practice.

Physicians are reminded of the **164th Annual Meeting of the Medical and Chirurgical Faculty of the State of Maryland,** to be held at The Alcazar in Baltimore, April 4, 5 and 6. Some of the special features of this meeting were described in the February issue of the MEDICAL ANNALS, on page 120. Members are invited to attend, and there is no registration fee.

General News

The Executive Board of the Medical Society of the District of Columbia met on January 22, 1962 for its regular meeting. The Chairman, Dr. James W. Watts, presided. The Board voted to contribute $100.00 again to the Joint Board on Science Education for the Greater Washington Area to be used for the promotion and conduct of Science Fairs in the Washington Metropolitan Area.

Dr. Zigmond M. Lebensohn notified the Board that he had been invited to attend the 8th Annual Conference of Mental Health Representativee of the State Medical Associations, sponsored by the American Medical Association, which was to be held in Chicago, February 2 and 3. The Board requested Dr. Lebensohn to attend as the Society's representative.

The Committee appointments presented to the Board at the December meeting by the incoming President, Dr. James S. Dryden, were confirmed at the January meeting. They are listed in this issue of the MEDICAL ANNALS, beginning on page 189.

The Medical Society's **Committee on Public Information and Education** has sent a letter to the members of the Society asking for their coöperation in selecting the recipient of the **1962 John Benjamin Nichols Award**. The recipient must be a lay person or organization whose income is not derived from activity in the health field or whose primary concern is with health. Selectees must have served the community "beyond the call of duty." Recipients are chosen by the Society's Executive Board, on recommendation of the Committee on Public Information and Education, from candidates proposed by members and friends of the Medical Society.

In making a recommendation the physician should state briefly the nature of the service rendered by his nominee and the reasons why he believes the award should be granted. Nominations close May 1, 1962. Communications may be addressed to Dr. Paul R. Wilner, Chairman of the Committee, 1718 M Street, N.W., Washington 6, D. C.

Commander Edward B. Sharpe, USNR-R, Commanding Officer of the Naval Reserve Program, Military Sea Transportation Service, has requested the assistance of the Medical Society in procuring **two doctors** (or one doctor and one nurse) **to serve as Medical Officer and Assistant Medical Officer.**

In a letter addressed to the Executive Director of the Medical Society he writes:

> "In order to be eligible for pay status the officer must not have failed for selection to the next higher rank, nor be over

age in grade. The rank of Lieutenant is preferred; however, officers of higher rank may request affiliation. Every effort will be made to secure a waiver of the rank requirement from the Commandant, Fifth Naval District.

"Emphasis is placed on training and study. Medical officers will not be required to perform professional tasks in support of the Division, except that liaison may be maintained with the Medical Office of the host Training Center to ensure readiness of records for administrative inspections.

"Annual active duty for training (two weeks) is a requirement. The first period of training duty will be taken at the Headquarters, Commander, Military Sea Transportation Service, Washington, D. C. The second or third period is an assignment aboard an MSTS transport. Depending on time available, cruises may be taken to the Caribbean, Mediterranean, or to Northern Europe."

Physicians interested in these positions may contact Commander Sharpe during office hours at the Maritime Administration (Dudley 6-4346 or Code 129X4346) or at home (Juniper 8-1388).

Plans to merge two international aid agencies, CARE and MEDICO, were announced on January 24, 1962. MEDICO, which will operate as a service of CARE, Inc. will continue to send teams of American physicians, nurses and technicians overseas to augment medical and clinical health services, training and education. CARE will assume administration and will provide materiel support.

MEDICO was co-founded by Dr. Peter D. Comanduras, a member of the D. C. Medical Society, and the late Dr. Tom Dooley. Dr. Comanduras, Secretary-General of MEDICO, will continue in charge of the medical program as Assistant Executive Director of CARE.

MEDICO's offices will be transferred to CARE's headquarters at 660 First Avenue, New York City.

Mr. Joseph E. Harvey has been named **Administrator for the Blue Cross and Blue Shield Federal employee program,** effective January 24, 1962. Mr. Harvey was formerly President of Oregon Physicians' Service, of Portland, Oregon. He has served the organization for 19 years and as President since 1960. In his new post he will be responsible for the administration of the Blue Cross and Blue Shield program under which Government employees have been enrolled for hospital and medical-surgical health benefits. His offices will be located in Washington, D. C.

The Medical Council of the Washington Metropolitan Area held a dinner meeting, January 25, and elected new officers. They are: Dr. Peter Soyster, Falls Church, Va., Chairman; Dr. Charles H. Ligon, Sandy Spring, Md., Vice Chairman; and Mr. Lawrence A. Zupan, Washington, Secretary.

The Council is made up of the Presidents, Past Presidents, Presidents-elect, and Secretaries of the District of Columbia and nearby County Medical Societies.

The District Board of Commissioners inaugurated its new **Practical Nurses' Examining Board** on January 18, 1962, by issuing licenses to three of its seven members. The Board was activated in September, 1960 under an act which gave the District its first licensing requirement for practical nurses. The seven-member Board consists of the three newly licensed practical nurses and four registered nurses. The Chairman is Orienna C. Syphax, R.N.

Alexandria Hospital dedicated its **new branch hospital,** located at 4320 Seminary Road, January 14, 1962. Present at the ceremonies were Vice President Lyndon B. Johnson and the Honorable Abraham A. Ribicoff, Secretary of Health, Education, and Welfare.

The 160-bed facility was built at a cost of $3,700,000.

Mr. Charles Goff, Administrator of Alexandria Hospital, will also administer the new building, with the assistance of Mr. Gorman C. Ridgely, who has worked with him for the past six years.

The first patients were admitted on January 29 to the new building, which will house the obstetric, gynecologic and pediatric services. The emergency and outpatient departments will remain at the Duke Street hospital.

Word has reached the offices of the Medical Society of the **death of Dr. Walter E. Vest,** of Huntington, West Va., Editor of the *West Virginia Medical Journal.* Dr. Vest was a member of the Advisory Committee to the State Medical Journal Advertising Bureau when it was a part of the American Medical Association. He continued this interest by serving as a member of the Advertising Committee since the incorporation of SMJAB in 1956.

Personals

Dr. Daniel L. Finucane, Director of Public Health for the District of Columbia since early 1957, announced his resignation, January 17, to become effective March 31. He has accepted the post of Director of Communicable and Chronic Disease Control of Prince Georges County Health Department, succeeding Dr. S. Ross Taggart, who retired recently.

Dr. Finucane will conclude 31 years of service with the Health Department. Prior to his present position he was on the staff of Glenn Dale Sanatorium from 1934 to 1957, becoming Superintendent and Medical Director in 1939.

The Evening Star lauded Dr. Finucane on its editorial page: "The marked improvement in the [District health] situation attests the high quality of Dr. Finucane's services, both as a professional man and as an administrator."

Dr. Thelma B. Dunn, who is head of the Cancer Induction and Pathogenesis Section of the National Cancer Institute in Bethesda, Md., was one of six Government women to receive the Federal Woman's Award on February 5, 1962. She was cited for a "distinguished career in experimental cancer research and particularly her highly significant studies of the origins of cancer in animals."

Dr. Dunn has received international recognition for her work on the pathology of the laboratory mouse. She is the wife of Dr. W. Leroy Dunn, who was President of the District of Columbia Medical Society in 1959.

Dr. Edgar W. Davis, a member of the Board of Directors of the Washington Heart Association, was one of three recipients of the American Heart Association Awards for Distinguished Achievement, presented at the Annual Public Meeting of the Washington Heart Association at the Mayflower Hotel, January 31.

Dr. John W. Latimer, Jr., President of the Washington Heart Association, presided at the meeting, which opened the 1962 Heart Fund Campaign. Dr. Bernard J. Walsh, Chairman of the Awards Committee, presented the awards, silver medallions, to Dr. Davis, the Honorable Abraham Ribicoff, Secretary of Health, Education, and Welfare, and Mrs. Lyndon B. Johnson, wife of Vice President Johnson, who will serve as Honorary Heart Sunday Chairman.

Dr. William P. Herbst, Jr. was elected President of the American Board of Urology at the annual meeting of the Board in Chicago, February 4. Dr. Herbst is beginning his ninth year of service on the Board.

Dr. Josephine J. Buchanan has retired as Chief of Rehabilitation at D. C. General Hospital, where she has served as a member of the staff since 1950. She has also retired as Chief of Rehabilitation in the Division of Chronic Diseases and Tuberculosis of the Public Health Service. Dr. Buchanan has received wide recognition for her excellent work in the vocational rehabilitation of chronically diseased patients.

On February 7, 1962 a dinner was held in her honor at the Broadmoor Apartments attended by physicians and other members of the Hospital staff.

Dr. Buchanan plans to enter private practice.

Dr. Thomas R. Rees has received a Presidential appointment to membership on the Board of Veterans Appeals.

Fellowship in the American College of Radiology was conferred upon **Dr. Eugene J. McDonald** at the Fellowship Convocation, February 9, during the 38th Annual Meeting of the College at the Roosevelt Hotel in New York.

Dr. Lawrence J. Thomas is President-elect for 1962 of Phi Lambda Kappa national medical fraternity. He has served as Treasurer since 1957. He was also elected Vice President of the Medical Students' Aid Society, a subsidiary organization of the fraternity.

Dr. Margaret M. Kenrick has been appointed Acting Director of the Department of Physical Medicine and Rehabilitation at Georgetown University School of Medicine. She has been Assistant Director of the Department since 1956.

Drs. Julius S. Neviaser, William J. Tobin and John P. Adams served as examiners for the American Board of Orthopedic Surgery in Chicago, January 24–26.

Correspondence

Ft. Lauderdale, Florida, November 2, 1961

To Mr. Wiprud:

I am enclosing a small token gift for the Society for the many courtesies shown me since my retirement and illness, and the loss of my husband. Of all the journals I take the Annals is the only one I read from cover to cover.

It is just like going back home to read the articles and notices of my many old friends.

Last year (in fact we started in 1959) I assisted in the formation of an Association of Retired M.D.'s. We have about a hundred members now and enjoy our "get-togethers" very much. The Broward County Medical Society has been most kind to us—each year they give us a delightful dinner and entertainment. We are trying to assist them in any way we can—at clinics, etc.

We have visions in the future of a National Association of the Retirees—in time we may accomplish this. Unfortunately, physicians never retire because they desire it—usually because of ill health, and since we began we have lost a half-dozen or so. We have only five women so far, but we are most royally treated always.

With all good wishes to you and all my friends,

Ella M. A. Enlows, M.D.

Washington D. C., December 11, 1961

To Mr. Wiprud:

We wish to express our sincere gratitude to the Medical Society of the District of Columbia for the citation given to the Daughters of Charity at the 29th Annual Scientific Assembly. It is a great honor and privilege to have our efforts recognized by the medical profession.

In honoring our century of service, you, of necessity, acknowledge the work of hundreds of dedicated men of the medical profession who have been an integral part of this phase of the history of health care in the Washington area. We respectfully share with these men the recognition that is given to us.

Thanking you again for your consideration and kindness, I am

Sincerely yours,
Sister Margaret Eileen
Administrator, Providence Hospital

Obituaries

GEORGE CAMPBELL CLARK, A.B., M.D.

(1862–1961)

Dr. George Campbell Clark, who died at his home, April 26, 1961, was before his death a Life member and the oldest living member of the Medical Society of the District of Columbia. His death has just been reported to the Society's offices.

Dr. Clark was born in Schellsburg, Pennsylvania, September 28, 1862, to William A. B. Clark and Jane Ramsey Clark. He received his early education in the Schellsburg schools. He graduated from Washington and Jefferson College, Washington, Pennsylvania, in 1883, receiving the degree Bachelor of Arts. He continued his studies at Jefferson Medical College, graduating in 1888.

After his graduation from medical school Dr. Clark served a year's preceptorship with an older brother, Dr. John Clark, who was a practicing physician in Bedford, Pa. Upon coming to Washington in 1891, he first served as House Physician at Eastern Dispensary, which later merged with Casualty Hospital. For many years he was in charge of dermatology and venereal diseases at Casualty Hospital, and later, for 20 years, in charge of radiology. In all, he was associated with Eastern Dispensary and Casualty Hospital for 25 years.

Dr. Clark was engaged in general practice in the District of Columbia for many years. He became affiliated with the Medical Association of the District of Columbia, which later merged with the Medical Society, in 1892, and a Life member of the latter in 1933. He was a member of the American Medical Association and the Washington Medical and Surgical Society, serving the latter as an officer at various times, including the presidency.

His wife, Mrs. Mary Leitch Clark, preceded him in death. He made his home with his daughter, Miss Helen L. Clark, at 4515 Wetherill Road, Westmoreland Hills, Maryland. He also leaves another daughter, Mrs. J. F. Brownlow, of Knoxville, Tennessee.

ROSCOE W. HALL, Ph.B., M.D.

(1888–1961)

Dr. Roscoe W. Hall, who had retired from the staff of St. Elizabeths Hospital, died, December 25, 1961, in the Veterans Administration Hospital in Martinsburg, West Virginia, after a long illness. He had been on the staff of St. Elizabeths since 1919 and had served for more than 25 years as Clinical Director.

Dr. Hall was born, February 22, 1888, in Millerstown, Pa. He graduated from Dickinson College, Carlisle, Pa., with the degree, Bachelor of Philosophy, in 1908, and from Johns Hopkins University School of Medicine in 1912. He interned at Baltimore City Hospital and later served for two years as resident psychiatrist at the Phipps Psychiatric Clinic of Johns Hopkins Hospital.

In 1917 he enlisted in the Army Medical Corps and served as a psychiatrist during World War I with the American Expeditionary Forces in Europe. After his release from active duty in 1919, with the commission of Major, he joined the staff of St. Elizabeths Hospital.

Dr. Hall was formerly Clinical Professor of Psychiatry at George Washington University and had lectured at the University of Maryland.

He was a Fellow of the American Psychiatric Association and a member of the American Medical Association and the Washington Psychiatric Society. He was an Associate member of the Medical Society of the District of Columbia from 1939 until he resigned in 1959 because of his retirement.

Dr. Hall had lived in quarters at the Hospital while on the staff there and then moved to the Roosevelt Hotel. There are no known survivors.

Partial Thromboplastin Time—Weiss, Reiner and Ibanez

(*Continued from page 142*)

8. McCain, K. F., Chernoff, A. I., and Graham, J. B.: Establishment of the inheritance of Hageman defect as an autosomal recessive trait, in Hemophilia and Other Hemorrhagic States. Chapel Hill, N. C.: Univ. N. Carolina Press, 1959.
9. Rodman, N. F., Barrow, E. M., and Graham, J. B.: Diagnosis and control of hemophilioid states with the partial thromboplastin time (P.T.T.) test. Am. J. Clin. Path., 1958, **29,** 525.
10. Gonyea, L. M., Hjort, P., and Owren, P. A.: Study of the relationship of concentrations of prothrombin, proconvertin and proaccelerin to three methods for measuring "prothrombin time." J. Lab. Clin. Med., 1956, **48,** 624.

Hazards of Oncolytic Agents—Gold and Shnider

(*Continued from page 145*)

5. Wells, C. E., and others: Electroencephalographic and neurological changes induced in man by the administration of 1,2,4-triazine-3,5(2H,4H)-dione (6-azauracil). Electroenceph. Clin. Neurophysiol., 1957, **9,** 325.
6. Freireich, E. J., Lane, M., and Shaw, R. K.: Clinical investigations with 3′,5′-di-chloroamethopterin. Proc. Amer. Ass. Cancer Res., 1959, **3,** 20.

Hospitals, Doctors and Dollars—Cunningham

(*Continued from page 180*)

in your own practice. When all the social effects of the technologic changes that have burst upon your generation of physicians are thoroughly understood, then they need to be explained—first to members of your own profession and then to others. When this is done, I'm confident physicians will have an honorable place in the new society as they had in the old, because I believe in a simple principle that is firmly rooted in our political society and was stated in its simplest terms by Thomas Jefferson some 180 years ago: "Given right information the people make right judgments."

Our faith in the principle is strained at times, but I believe it will stand up. We ought to give it a chance.

Annual Financial Statements

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA
BALANCE SHEET

December 31, 1961

ASSETS

Cash:		
General Fund	$70,998.22	
Building Fund	9,274.36	
Davidson Lecture Fund	447.32	
Bequest Fund	13,926.18	
Kober Library Fund	5,118.73	
Frank M. McChesney Fund	528.06	
Sterling Ruffin Bequest Fund	16,116.41	$116,409.28
Accounts Receivable		12,097.57
Securities		18,689.94
Fixed Assets—Net after Depreciation (Land, Buildings—1718 & 1710 M St., N.W., Furniture & Fixtures)		227,156.82
Other Assets (Grant to Cancer Program)		6,063.14
TOTAL ASSETS		$380,416.75

LIABILITIES AND NET WORTH

Accounts Payable (Trade Creditors)	4,500.65
Note Payable (Long-term Insurance Premiums)	949.04
Collections for Trust and Other Funds (AMA Dues 1962)	5,832.64
Other Liabilities (Grants and Taxes)	2,141.72
Deferred Income (Society Dues 1962)	44,607.95
TOTAL LIABILITIES AND DEFERRED INCOME	$58,032.00
Net Worth	322,384.75
TOTAL LIABILITIES AND NET WORTH	$380,416.75

STATEMENT OF INCOME AND EXPENSES

Year Ended December 31, 1961

INCOME:			
Membership Dues		$100,842.50	
Other Income:			
Medical Annals		47,481.29	
Medical Bureau		121,133.40	
Annual Scientific Assembly		19,459.25	
Rental Income 1710 M St., N.W.		7,363.50	
Miscellaneous		1,132.37	
TOTAL INCOME			$297,412.31
EXPENSES:			
Maintenance of Building		$7,322.11	
Maintenance of Office:			
Staff Salaries	$50,317.90		
Operating Expenses	13,200.86	63,518.76	
Society General and Special Expenses		13,815.61	
Annual Scientific Assembly		20,077.95	
Expenses of Property—1710 M St., N.W.		8,479.60	
Medical Annals:			
Salaries	$12,684.73		
Operating Expenses	35,790.42	48,475.15	

(*Continued on next page*)

STATEMENT OF INCOME AND EXPENSES

(Continued)

Medical Bureau:			
Salaries	$90,919.42		
Operating Expenses	27,493.60	$118,413.02	
TOTAL EXPENSES EXCLUSIVE OF DEPRECIATION			$280,102.20
Excess of Income over Expenses before Depreciation			$17,310.11
Deduct: Depreciation and Transfers			(10,188.42)
NET INCREASE IN NET WORTH			$7,121.69

ESTIMATED BUDGET 1962*

INCOME:			
Membership Dues		$103,985.00	
Other Income:			
Medical Annals		53,050.00	
Medical Bureau		121,558.00	
Rental Income—1710 M St., N.W.		7,450.00	
Miscellaneous		1,520.00	
TOTAL INCOME			$287,563.00
EXPENSES:			
Maintenance of Building		$7,720.00	
Maintenance of Office:			
Staff Salaries	$58,450.00		
Operating Expenses	13,825.00	72,275.00	
Society General and Special Expenses		12,800.00	
Expenses of Property—1710 M St., N.W.		8,420.00	
Medical Annals:			
Salaries	$11,766.00		
Operating Expenses	44,969.00	56,735.00	
Medical Bureau:			
Salaries	$91,300.00		
Operating Expenses	27,350.00	118,650.00	
TOTAL EXPENSES			276,600.00
Excess of Income over Expenses			$10,963.00
Transfer to Building and Equipment Funds			(3,000.00)
NET EXCESS OF INCOME OVER EXPENSES			$7,963.00

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* Adopted at the Annual Business Meeting of the Medical Society of the District of Columbia, November 15, 1961.

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

1962

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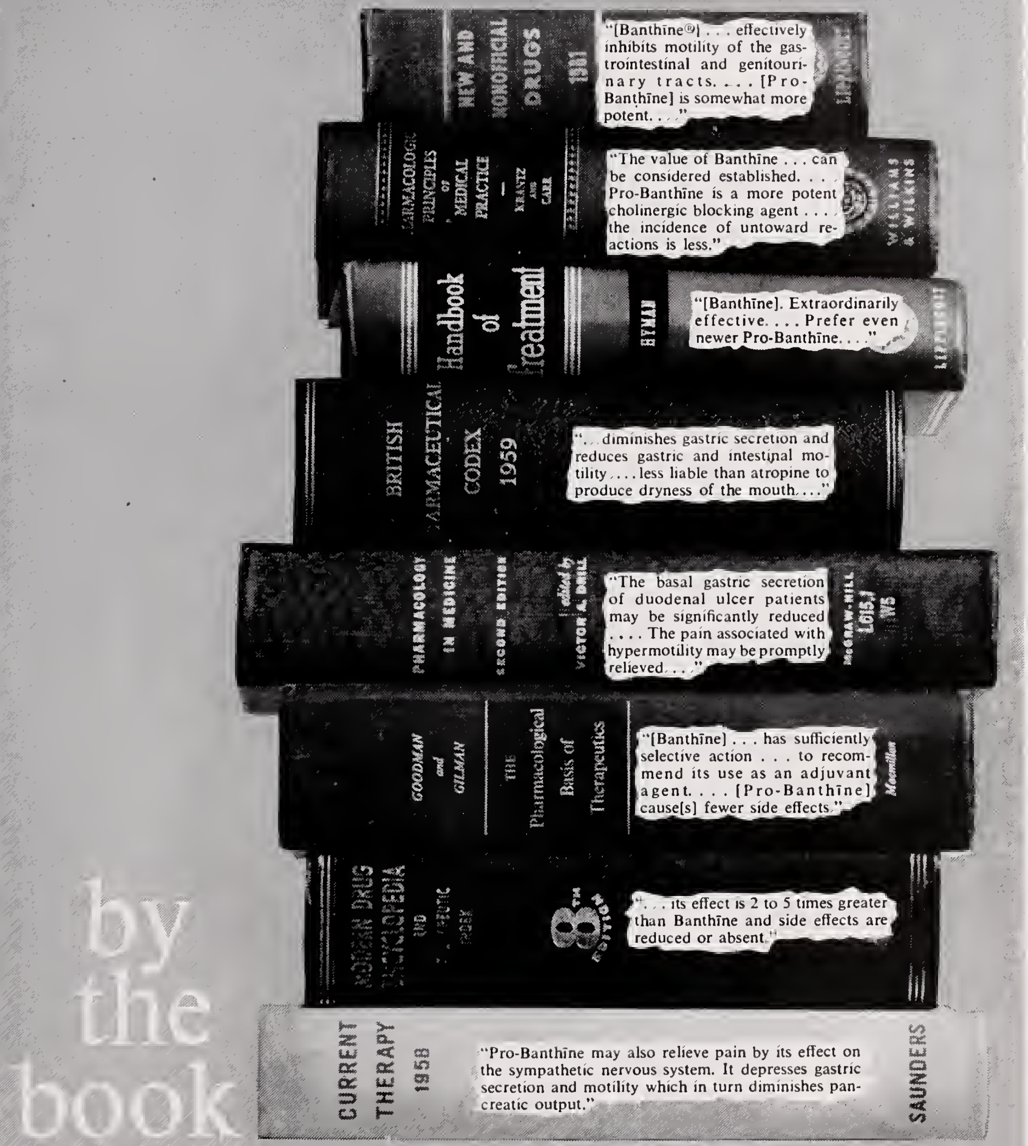

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arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]
3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]
8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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BOOK REVIEWS

Respiration in Health and Disease. R. M. Cherniack, M.D., and L. Cherniack, M.D. Price, $10.50. Pp. 403, with 92 illustrations. Philadelphia: Saunders, 1961.

This volume is an attempt to present lucidly and concisely a correlation between the newest concepts of respiratory physiology and biochemistry and the clinician's approach to the patient. The attempt is only partially successful, but, even so, the effort has produced a relatively large amount of interesting and worthwhile reading compressed into a relatively small volume of about 400 pages.

Part I (Basic Considerations) is perhaps the most valuable part of the entire volume, consisting of 86 pages of clear, condensed explanation of pulmonary physiology. Although a more complete and informative presentation of similar information is available in a volume entitled "The Lung" (Comroe, et al; Year Book Publishers, Chicago, 1955), the Cherniacks' presentation does have the merit of considerable accuracy and brevity with reasonable completeness.

Section II is a listing of signs and symptoms of respiratory disease which seems to fall short of its goal since it is neither complete enough to be of use to the medical student nor does it relate its subject material sufficiently to specific clinical diseases to be of value to the clinician.

Section III is an excellent, well organized review of the pathogenesis, clinical, radiological, and functional manifestations of specific types of pulmonary pathology. It includes some material that is at least partially repeated in other sections.

Section IV is a sketchy synopsis of the various clinical and laboratory procedures involved in the evaluation of pulmonary disease.

The material is presented in a somewhat disconnected summary form that would not be useful as a reference source and yet in itself does not have enough continuity or intrinsic value to justify the time spent in a single continuous reading. A few minor inconsistencies are noted, such as, "the Nickerson-Kveim skin test is a valuable diagnostic procedure" and, more realistically, seven lines later, "the diagnostic value of the skin test (Nickerson-Kveim) is limited, etc." Perhaps wisely there is absolutely no discussion of therapy, since such considerations frequently limit the useful life of such a volume in the face of the controversy and change that often complicate textbook presentations of treatment.

James P. Mann, M.D.

Proceedings, Thirteenth International Congress on Occupational Health, July 25–29, 1960. Pp. 1005. New York: Book Craftsmen Associates, 1961.

The International Congress on Occupational Health meets every three years. The Thirteenth Congress, held in New York City, was the first of these conferences held in this country. The published proceedings of the Thirteenth Congress presents itself as a fine research book and clearly presents the wide spread of interests in the field of occupational health around the entire world.

For purpose of indexing, sections are devoted to the reports of organizing committees, the Proceedings of Permanent Commission and International Association on Occupational Health, and the addresses before the plenary sessions. The broad field of occupational health was divided into these areas: Administrative Practices, Surgical Practices, Medical Practices, Education and Training, Environmental Hygiene, Social and Legal Aspects, Influence of Environmental Factors on Health, Work Physiology and Psychology, and General. In these broad bands are presented many facets of the problems of occupational health. The viewpoints of management, the physician, and the nurse are defined.

This is not a book to "sit down and read." It presents itself as a fine reference book for those working in the field of occupational health and for the practitioner of medicine who is concerned with his working patient and his work place.

R. Lomax Wells, M.D.

Handbook of Surgery. Edited by John L. Wilson, M.D., and Joseph J. McDonald, M.D. Price (paper), $4.00. Pp. 646. Los Altos, Calif.: Lange, 1960.

This delightful little book is one of the latest additions to the Lange Medical Publications. This publishing firm has been outstanding in making available short, concise, and generally excellent books on general medicine—Physician's Handbook, $3.50; Medical Treatment, $3.50; Pediatrics, $3.50; General Urology, $5.00, etc.

The surgical booklet, in my opinion, gives an excellent review of trauma and emergencies, pre- and postoperative care, anesthesia, electrolyte-balance, surgical infections and nutrition.

It follows this introductory part with a concise survey of the most used operations for head and neck, pulmonary system, heart and great vessels, abdomen, pelvis, etc. These descriptions cannot compare, of course, with the descriptions in full-sized surgical books, but the student, intern and nonsurgical physician will find many interesting data in these short articles that they will overlook in the bigger books because of lack of time to read it all.

I think this to be an excellent little book when one wants a quick survey of a certain field of surgery with which one is not very familiar.

I recommend it highly for nonsurgeons who are interested in some aspect of surgery and desire quick information about that surgical field.

Philip Bloemsma, M.D.

(*Continued on page 46*)

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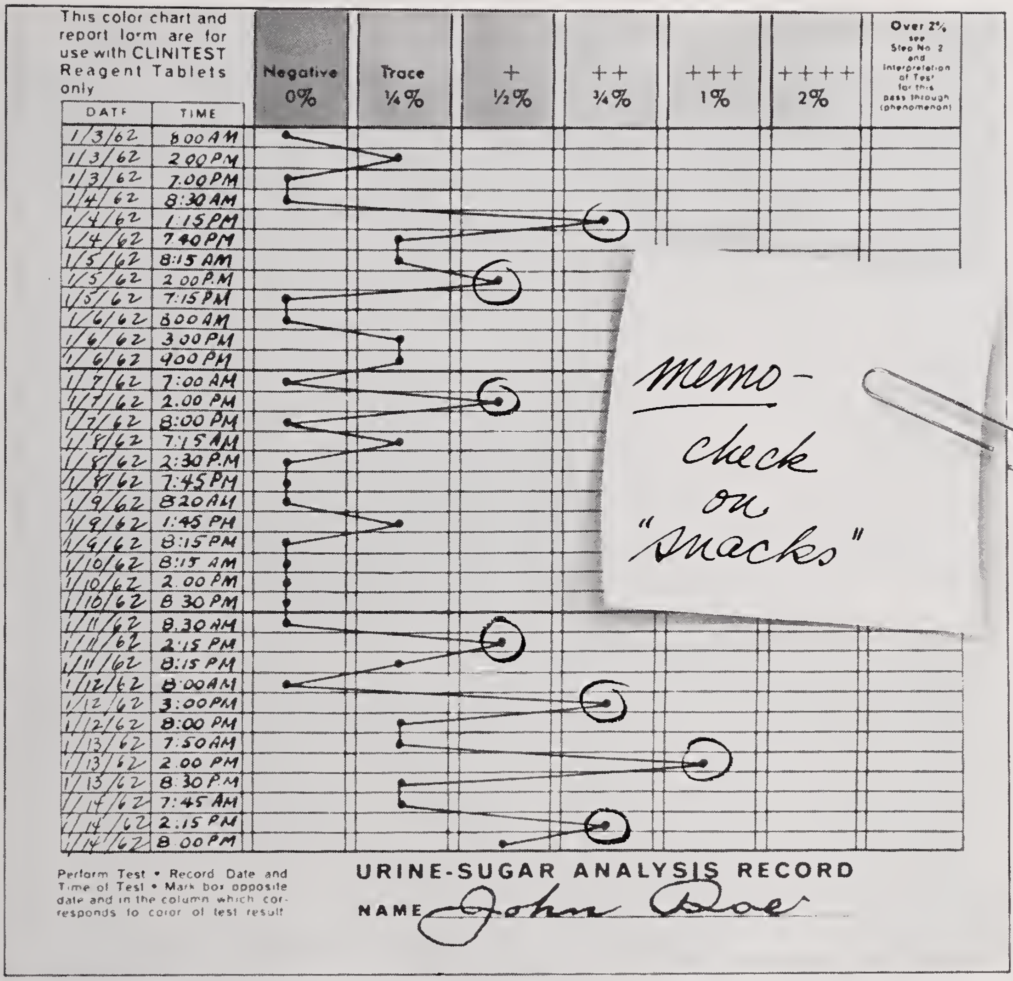

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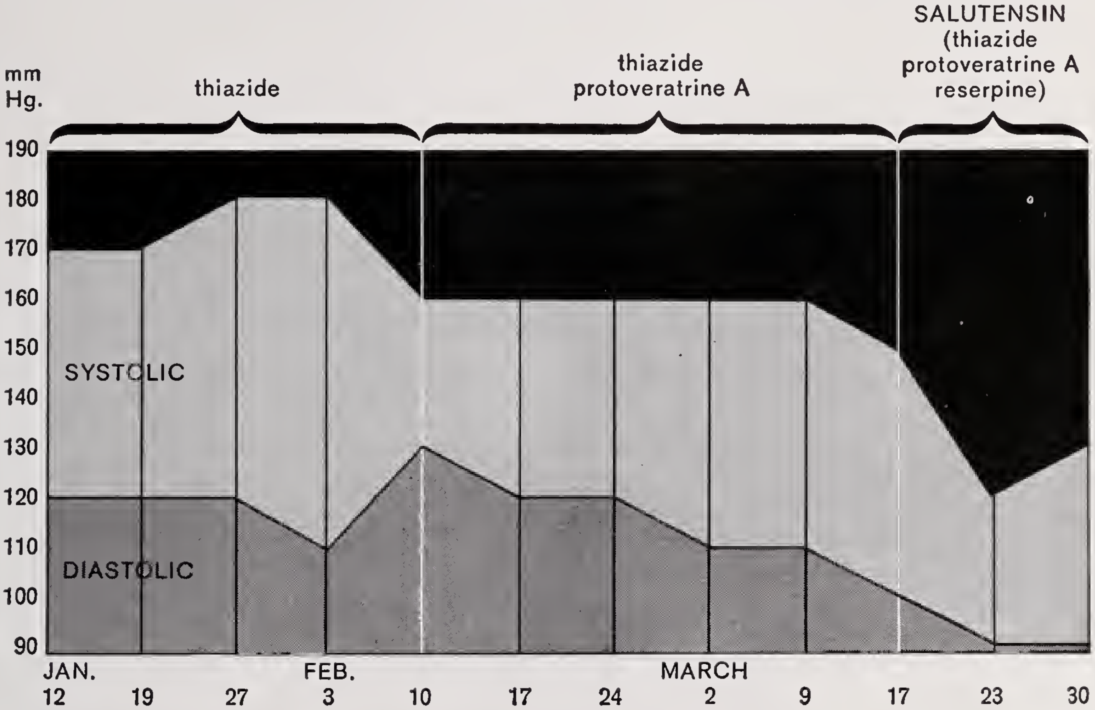
11 WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS BY SERIAL ADDITION OF THE INGREDIENTS IN SALUTENSIN IN A TEST CASE

(Adapted from Spiotta, E. J.: Report to Department of Clinical Investigation, Bristol Laboratories)



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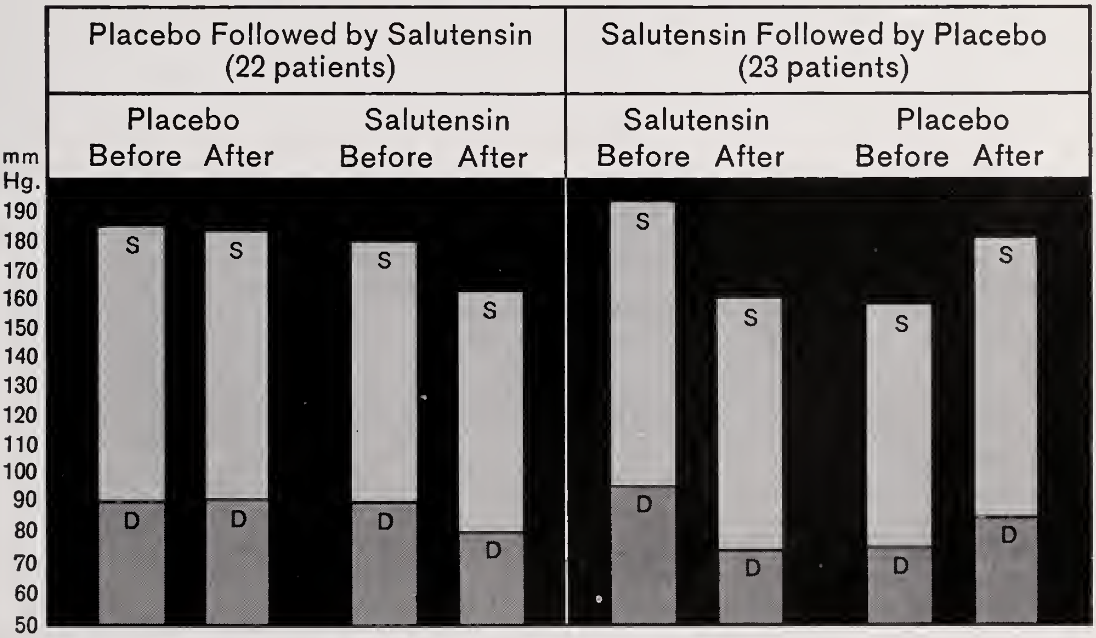

In this "double blind" crossover study of 45 patients, the mean systolic and diastolic blood pressures were essentially unchanged or rose during placebo administration, and decreased markedly during the 25 days of Salutensin therapy. (Smith, C. W.: Report to Department of Clinical Investigation, Bristol Laboratories.)

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Book Reviews

(*Continued from page 40*)

Eye Symptoms in Brain Tumors. Alfred Huber, M.D. Translated by Stefan van Wien, M.D. Price, $16.00. Pp. 329, with 192 illustrations. St. Louis: Mosby, 1961.

This is a superb book. Actually, it is Volume VII of a larger series published in German under the title of "Innere Medizin und Ihre Grenzgebiete" and lives up very well to the long-established tradition of Teutonic thoroughness. Although I did not have an opportunity to review this book in the original German, but rather in the translation by Stefan van Wien, I strongly suspect that it has gained considerable readability in translation. The usual stilted constructions and weirdly confusing translations of individual words, especially adjectives, so common in translated books, are completely absent. I recommend this book as an object lesson to any person embarking on the arduous task of transcribing a medical text from one language to another and retaining at the same time the meaning or impact intended by the author.

Dr. Huber has made use of a widely known, but infrequently employed, publishing trick—the use of italics for emphasis or subject identification. This is all too rare in American medical literature and deserves to be copied. It makes for greater ease of reading and also permits scanning when the reader is searching rapidly for some particular information. Another feature that is commendable is the almost conversational manner he employs in referring to other authors. He names them by name but avoids the odious little number on the northeast corner. Then, in the back of the book in 46 pages he has listed all his references, arranging them under the corresponding chapter and subtitle headings. I found on spot-checking that it was just as easy to find the reference in the bibliography when done by this method as by the numerical method.

Dr. Huber divides his material into five chapters, the first chapter being concerned with methods of neuro-ophthalmologic examination of patients suspected of having brain tumors. This is a thorough and accurate description of his technique and gives us an excellent glimpse of the stature of the author. In this chapter he used one phrase which was unfamiliar to me, but which I think is well worthy of perpetuation because of its meaningfulness. For "visual object agnosia" Dr. Huber uses the words "soul blindness," implying blindness to the *meaning* of things seen. A beautiful and precise name! I recommend its adoption.

In chapter two the author considers the general symptoms of increased intercranial pressure, and, in chapter three, certain local symptoms of an ophthalmological character related to various types of tumors and their several locations. Chapter four consists of an unbelievably short four pages where the author permits himself to digress from factual presentation and indulges himself in a little lore—a refreshing literary coffee-break. In chapter five he deals with pseudotumors, including subdural hematomas, brain abscesses, and aneurysms. His mastery of his material is evident, although the space he has allotted for this discussion is limited.

The book is excellently illustrated with numerous fundus photographs and reproductions of visual fields. From time to time clear anatomic drawings are inserted for better understanding of the subject matter. As I read through the book I wished that some of the pictures were in color, but I know that if this were done the volume would be prohibitive in cost.

I cannot close this review without reference to chapter six. This is a book reviewer's dream! On two and one quarter pages Dr. Huber summarizes everything he has said in the preceding 268 pages!

In my opinion, this book is a *must* for every hospital library shelf in the country and should be at least available to, if not in the possession of, every practicing neurosurgeon and ophthalmologist.

Jonathan M. Williams, M.D.

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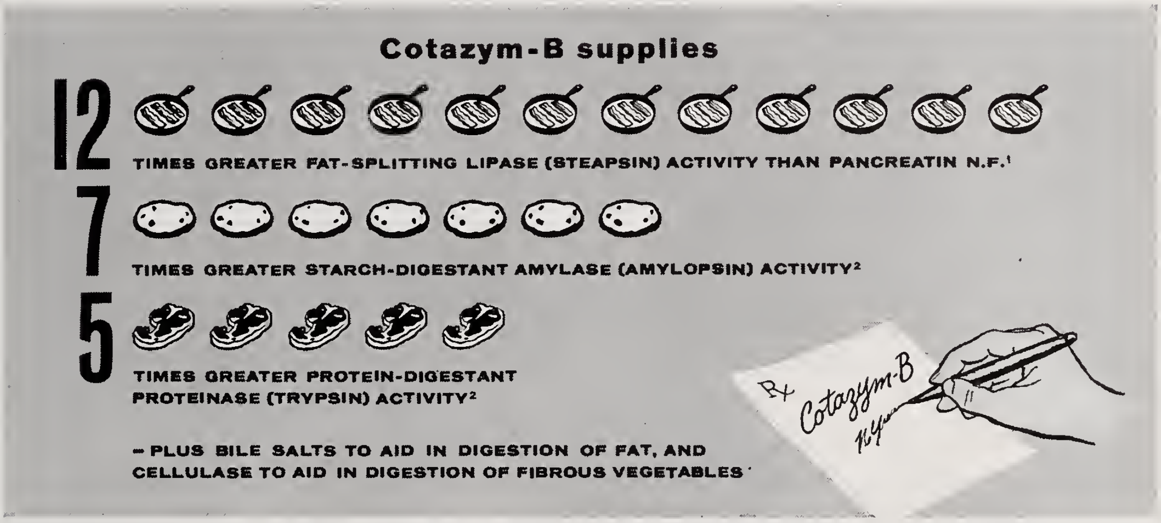

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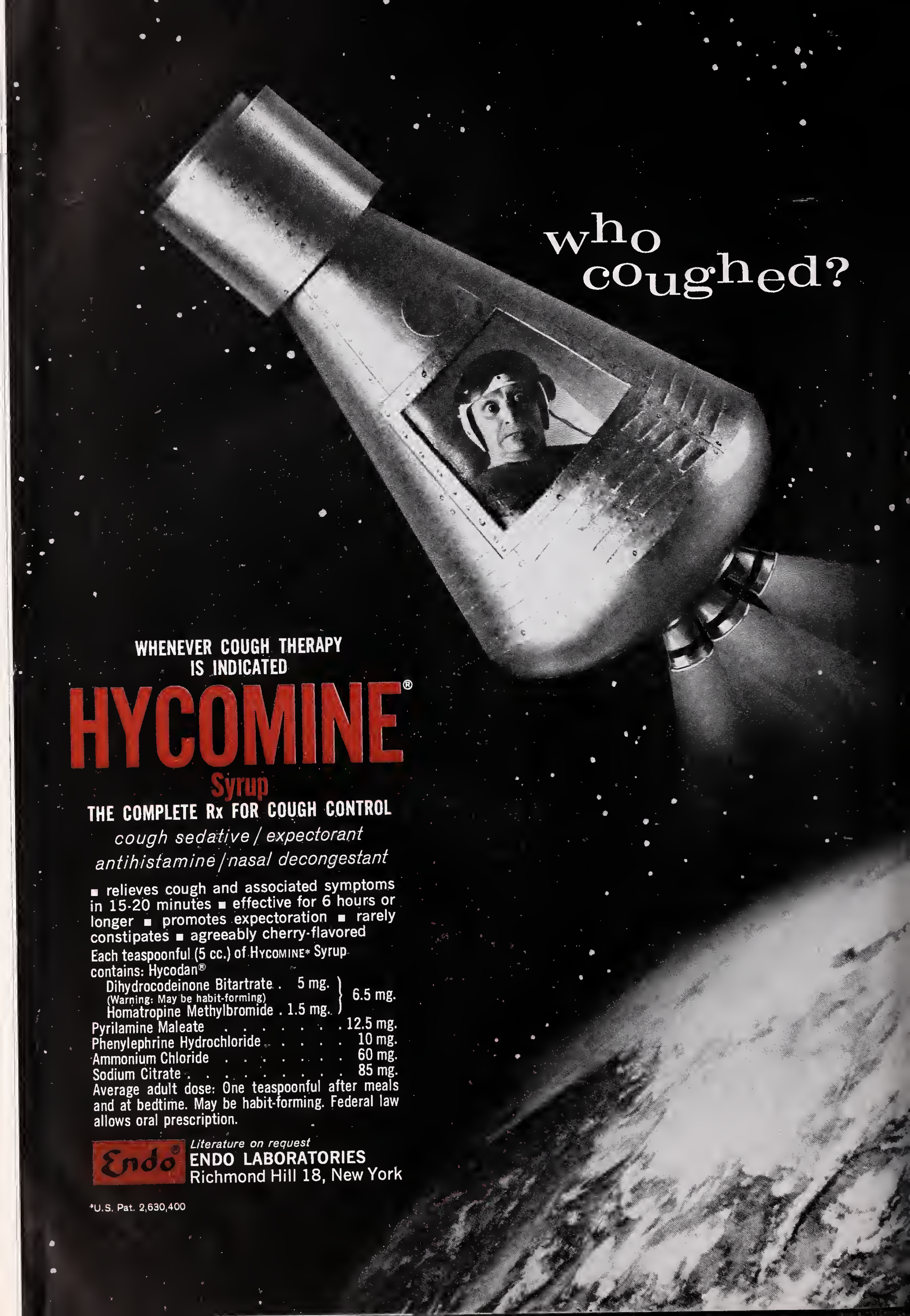
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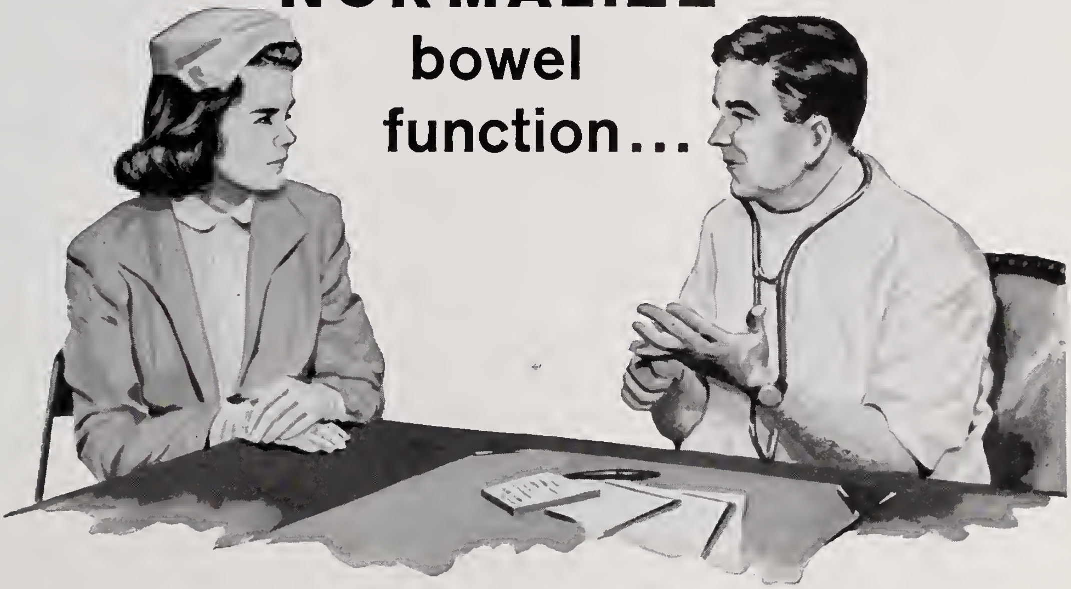

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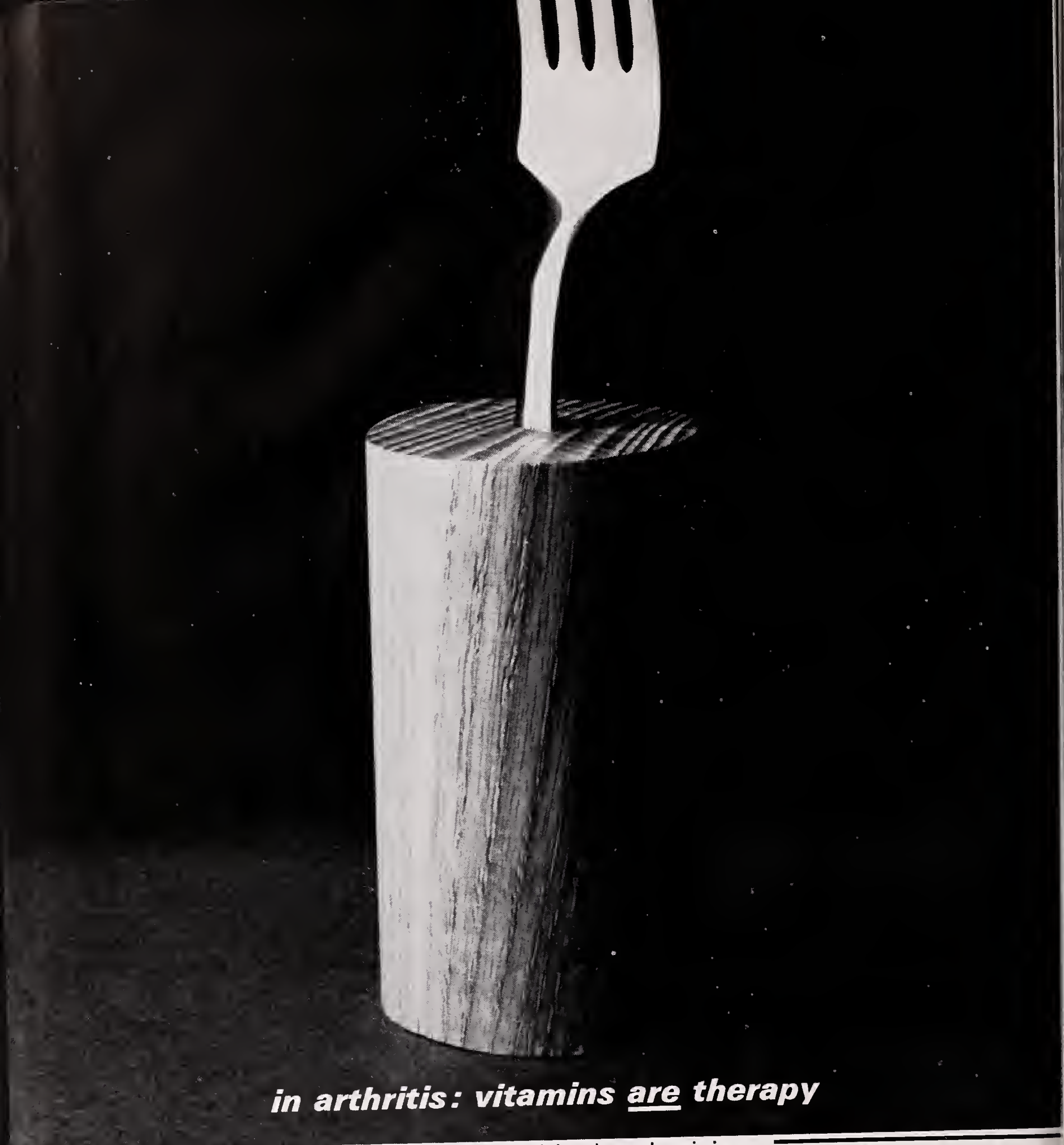

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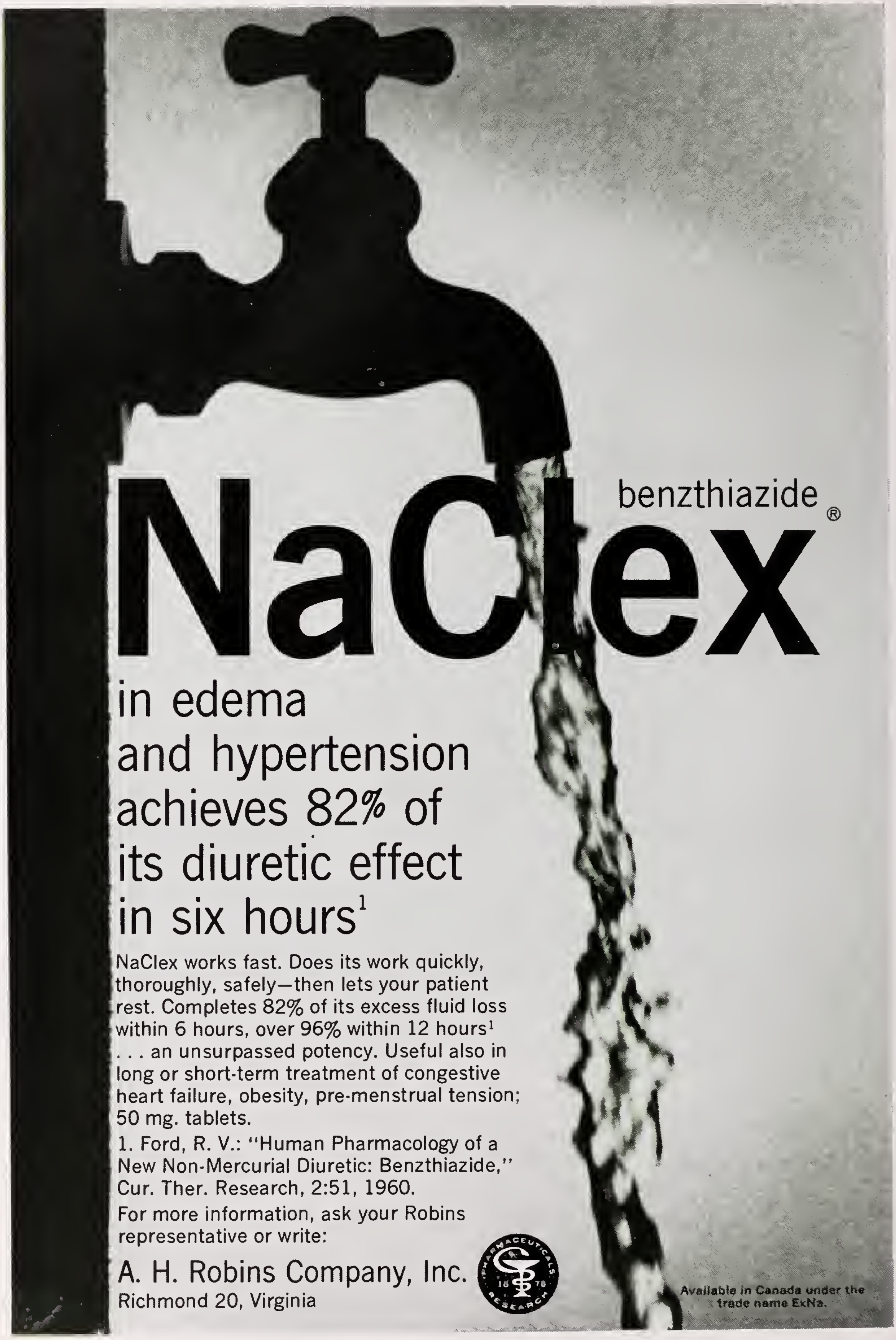

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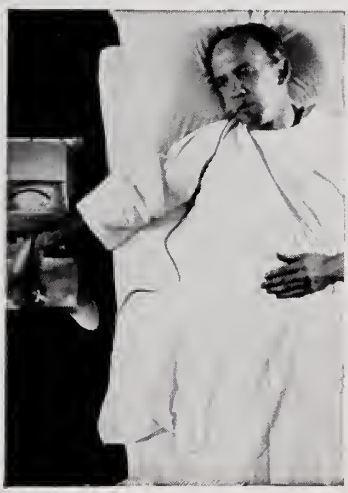

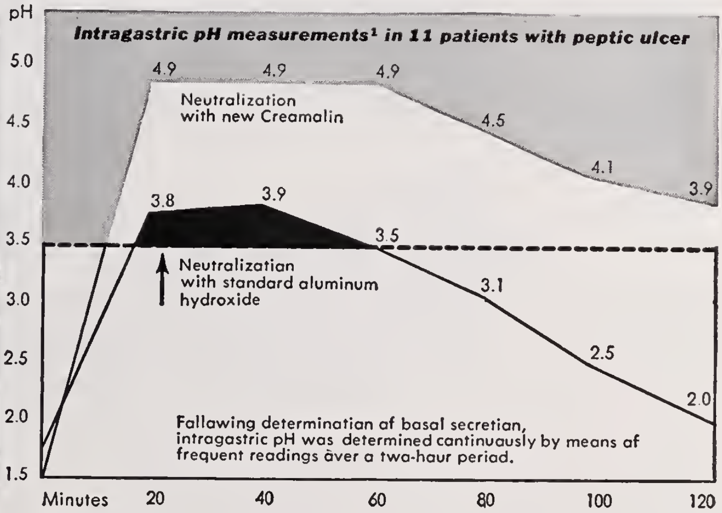
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5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
4.9
4.9
4.9
4.5
4.1
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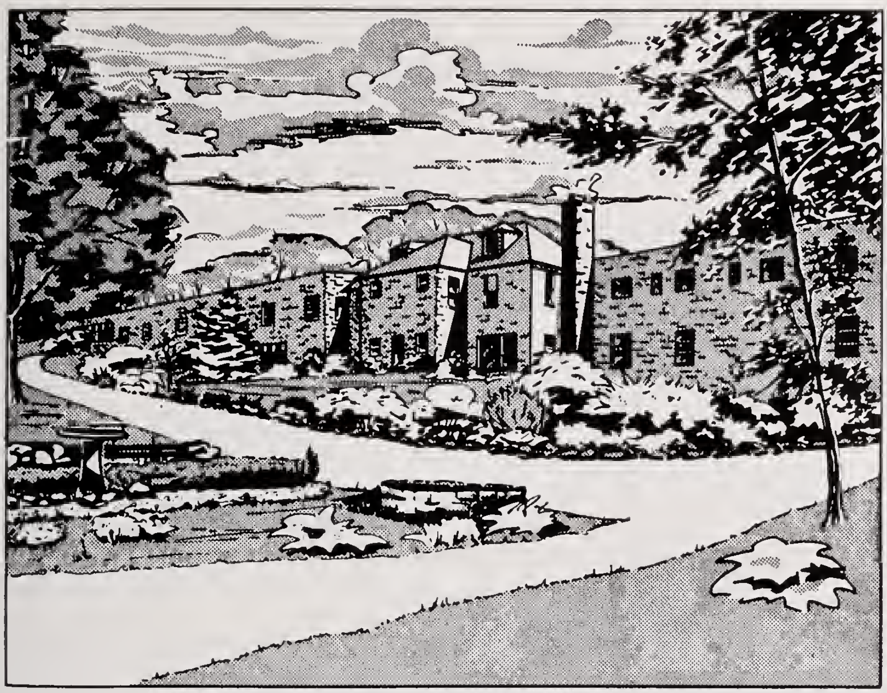

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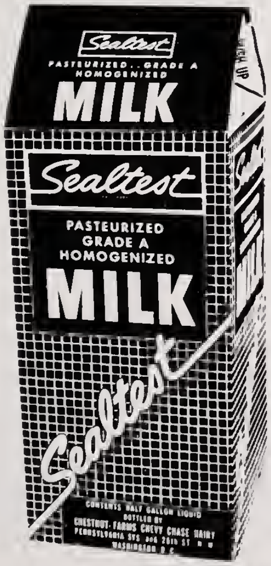
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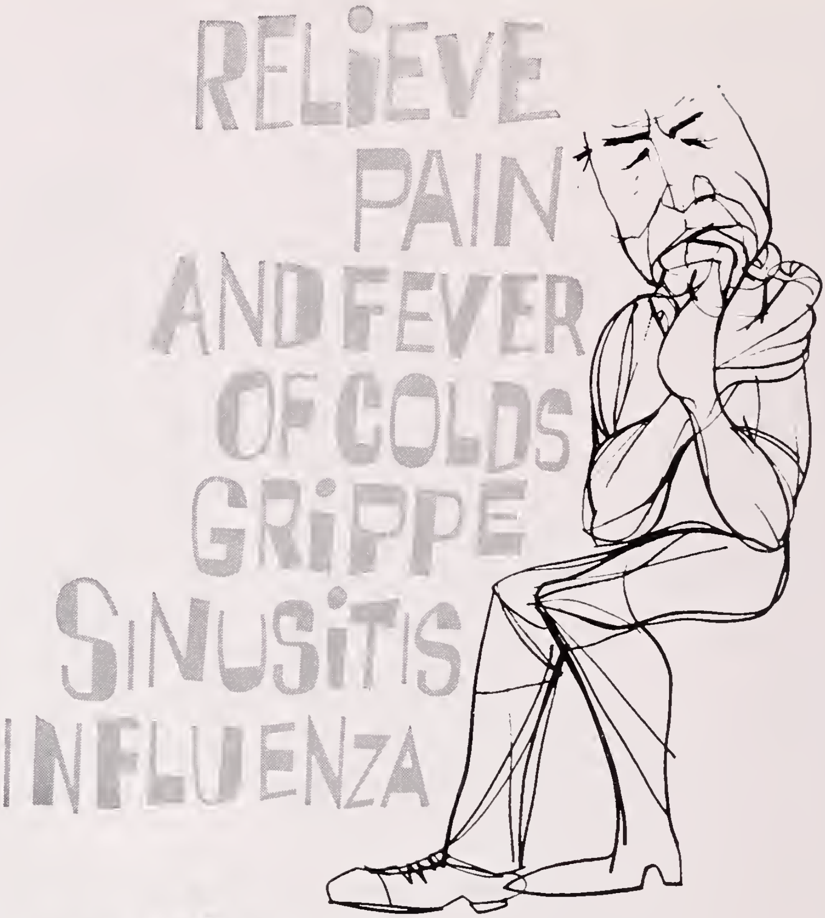

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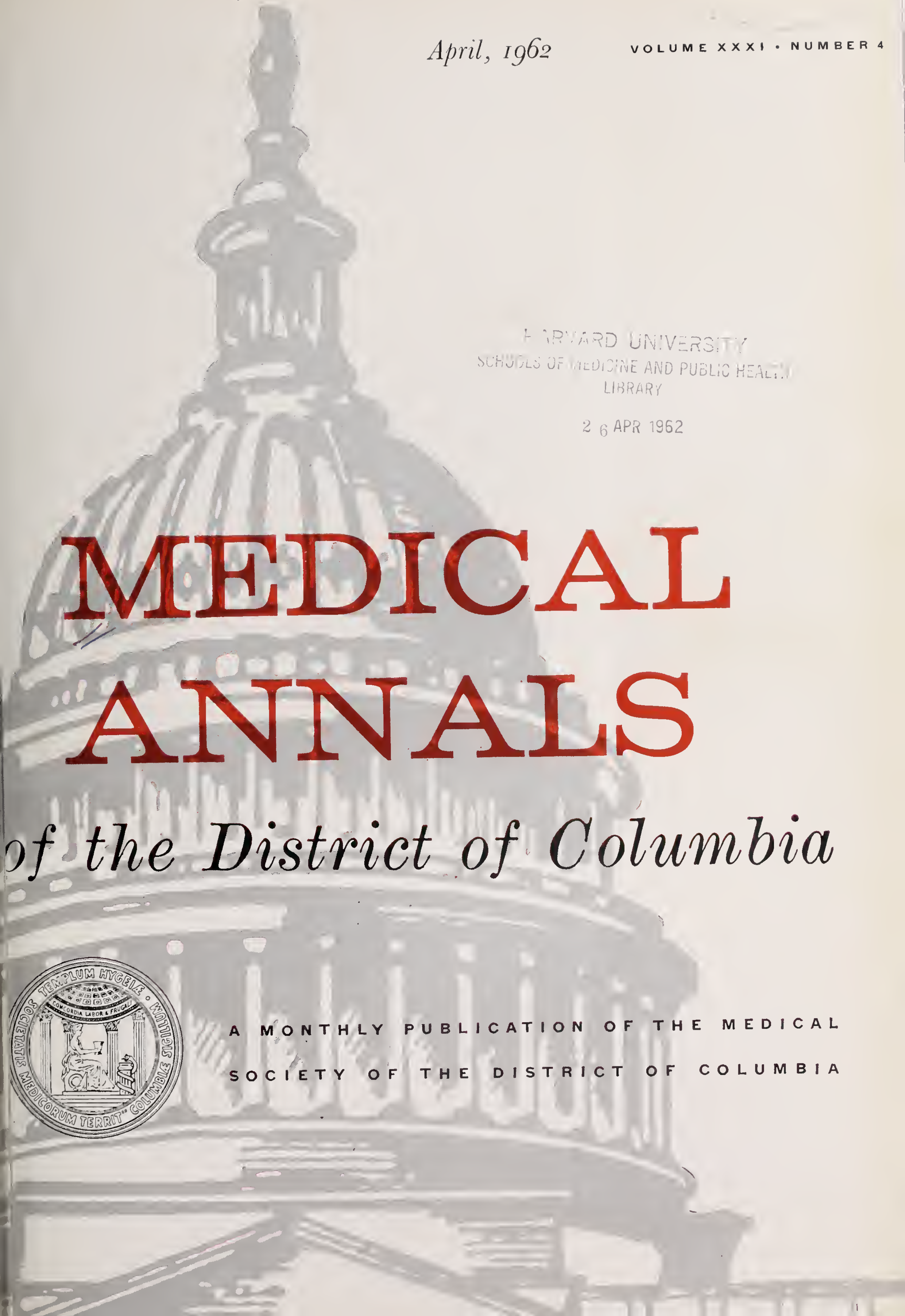

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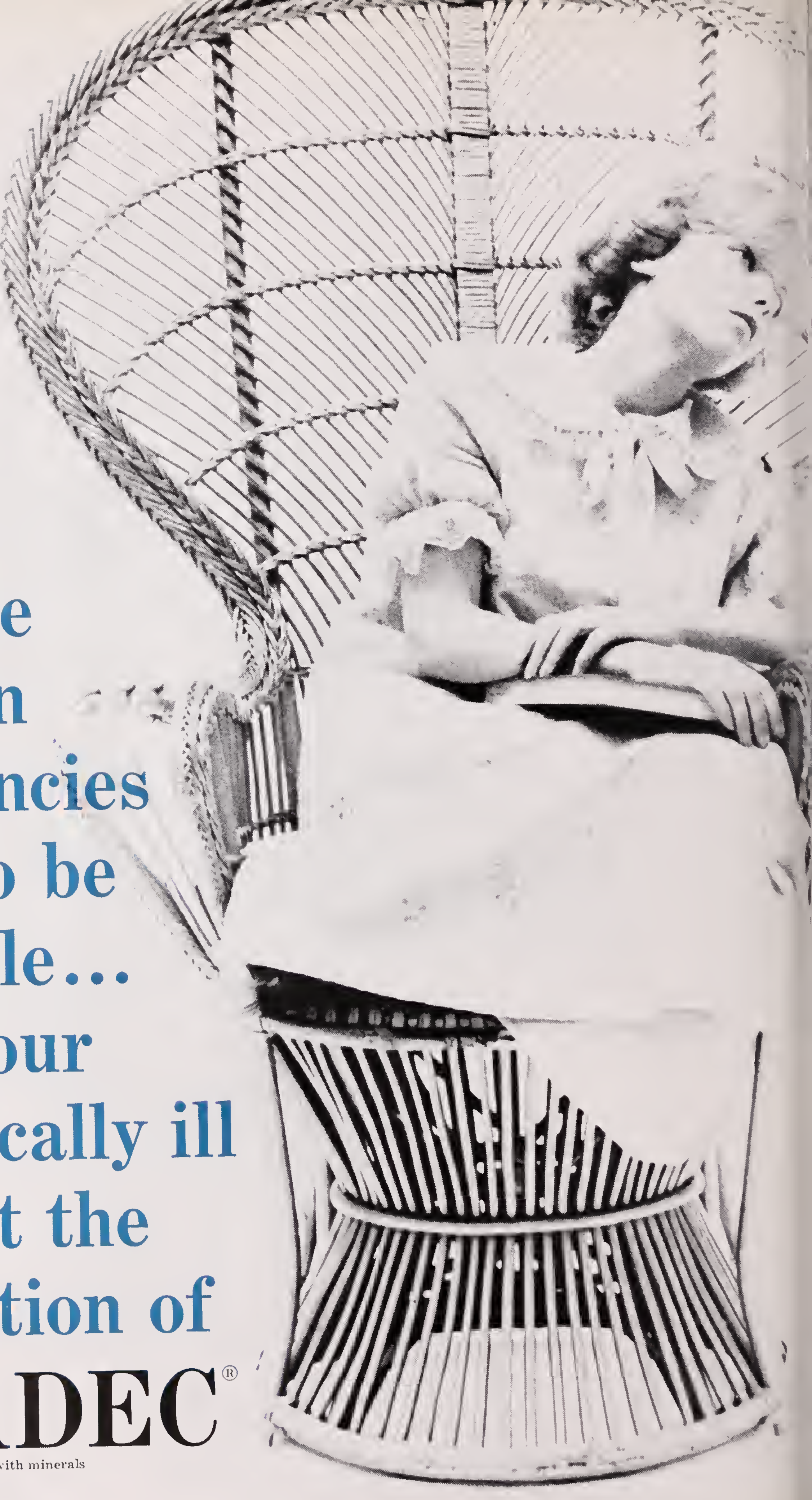

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1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

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arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]
3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25.673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]
8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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provides the benefits of Terramycin Intramuscular Solution: rapid effectiveness against a broad range of pathogens; rapid, wide distribution in body tissues and fluids; excellent toleration

plus . . . all the advantages of the ISOJECT unit:

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presently available ISOJECT forms:
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IN BRIEF

The dependability of Terramycin in daily practice is based on its broad range of antimicrobial effectiveness, excellent toleration, and low order of toxicity. As with other broad-spectrum antibiotics, overgrowth of nonsusceptible organisms may develop. If this occurs, discontinue the medication and institute appropriate specific therapy as indicated by susceptibility testing. Glossitis and allergic reactions to Terramycin are rare. As with all I.M. preparations, injection should be made within the body of a relatively large muscle. Care should always be taken to avoid injection into a major nerve or its surrounding sheath. For complete dosage, administration, and precaution information, read package insert before using. Terramycin Intramuscular Solution contains 2% (W/V) Xylocaine.*

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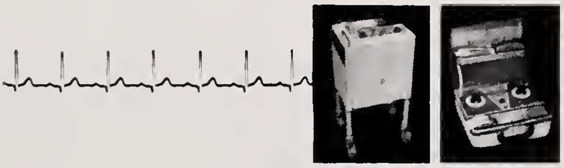

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References: 1. Fries, E. D.: In Hypertension, ed. by J. H. Moyer, Saunders, Phila., 1959 p. 123. 2. Fries, E. D.: South M. J. **51**:1281 (Oct.) 1958. 3. Finnerty, F. A. and Buchholz, J. H.: GP **17**:95 (Feb.) 1958. 4. Gill, R. J., et al.: Am. Pract. & Digest Treat. **11**:1007 (Dec.) 1960. 5. Brest, A. N. and Moyer, J. H.: J. South Carolina M. A. **56**:171 (May) 1960. 6. Wilkins R. W.: Postgrad. Med. **26**:59 (July) 1959. 7. Gifford, R. W., Jr.: Read at the Hahnemann Symp. on Hypertension, Phila. Dec. 8 to 13, 1958. 8. Fries, E. D., et al.: J. A. M. A. **166**:137 (Jan. 11) 1958. 9. Ford, R. V. and Nickell, J.: Ant. Med. & Clin. Ther. **6**:461, 1959.

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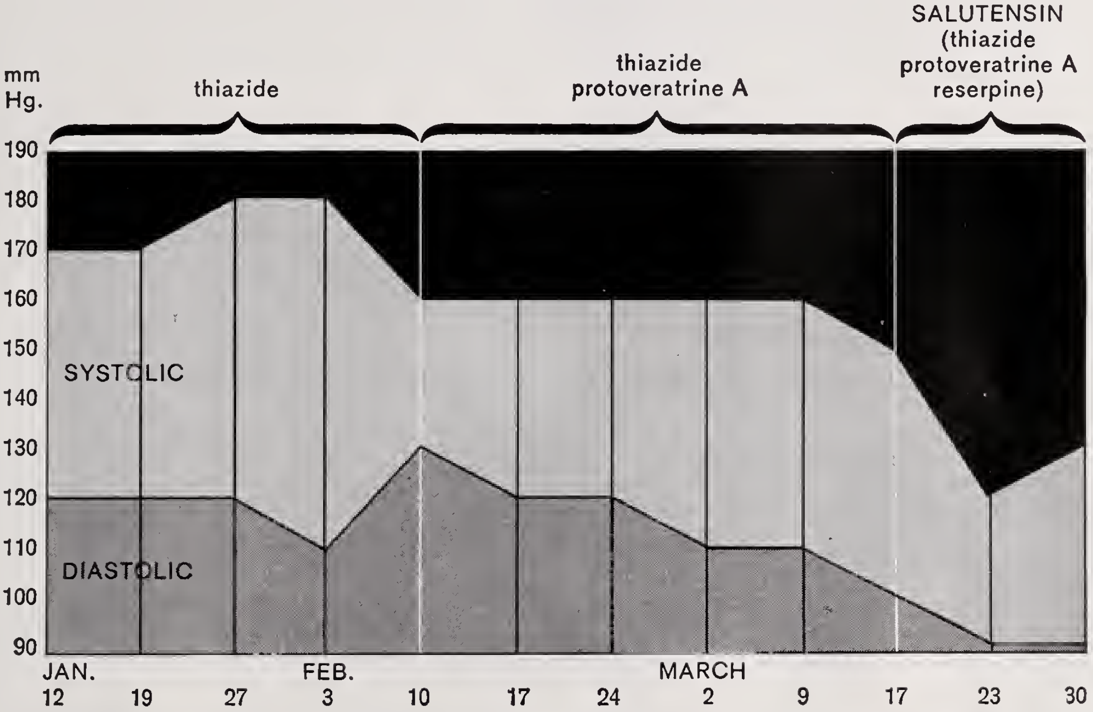
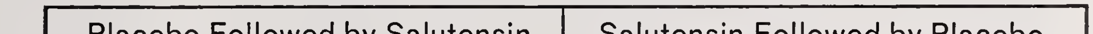
11 WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS BY SERIAL ADDITION OF THE INGREDIENTS IN SALUTENSIN IN A TEST CASE

(Adapted from Spiotta, E. J.: Report to Department of Clinical Investigation, Bristol Laboratories)



3½ WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS USING SALUTENSIN FROM THE START OF THERAPY IN A "DOUBLE BLIND" CROSSOVER STUDY

Mean Blood Pressures—Systolic (S) and Diastolic (D)



In this "double blind" crossover study of 45 patients, the mean systolic and diastolic blood pressures were essentially unchanged or rose during placebo administration, and decreased markedly during the 25 days of Salutensin therapy. (Smith, C. W.: Report to Department of Clinical Investigation, Bristol Laboratories.)

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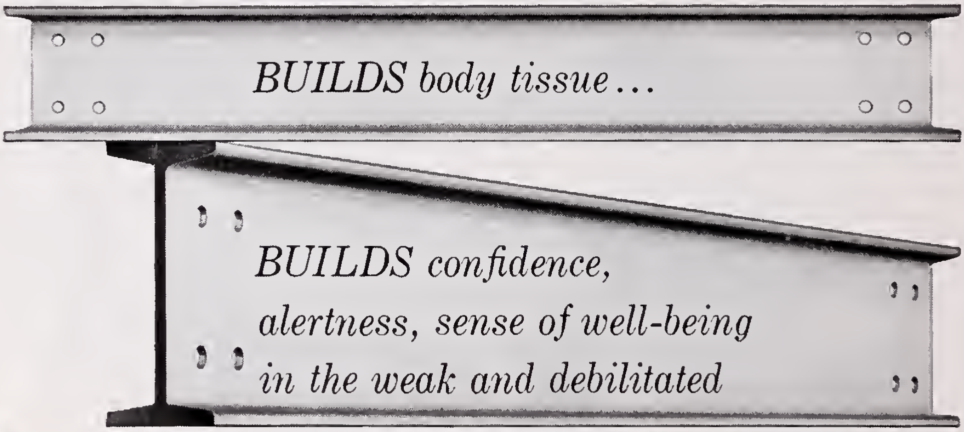
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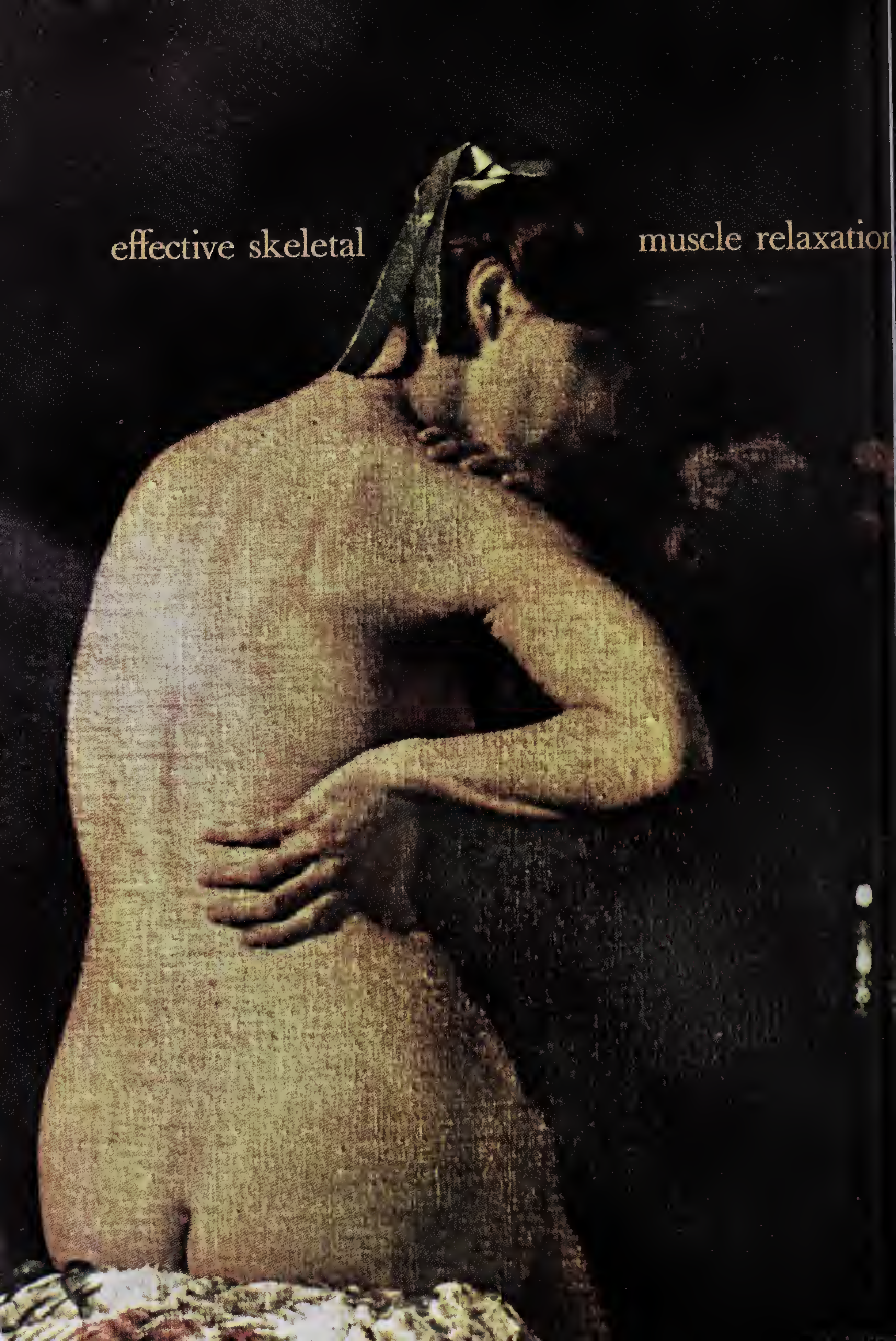
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References: 1. Carpenter, E. B.: South. M. J. 51:627, 1958. 2. Hudgins, A. P.: Clin. Med. 8:243, 1961. 3. Lamphier, T. A.: J. Abdomin. Surg. 3:55, 1961. 4. Levine, I. M.: Med. Clin. N. America 45:1017, 1961. 5. Meyers, G. B., and Urbach, J. R.: Penna. M. J. 64:876, 1961. 6. Perchuk, E., Weinrch, M., and Aksu, A.: Angiology 12:102, 1961. 7. Poppen, J. L., and Flanagan, M. E.: J.A.M.A. 171:298, 1959. 8. Schauhel, H. J.: Orthopedics 1:274, 1959. 9. Steigmann, F.: Am. J. Nursing 61:49, 1961.

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STUDY 3 *Weissberg, G.: Clin. Med. 7:1161, 1960.*

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BOOK REVIEWS

Memoirs of a Medico. Dr. E. Martínez Alonso. Price, $4.50. Pp. 335. Garden City, N. Y.: Doubleday, 1961.

This is an inconsequential, generally capricious and frequently absurd quasi-autobiography of a prominent Spanish physician who realizes his great ambition: "to be a doctor to a luxurious cosmopolitan hotel." This he eventually accomplishes at the Castellana Hilton in Madrid, where he receives his appointment from Conrad Hilton, whom he had treated some years before with a series of vitamin injections.

There is no effort by the author to reveal himself. For only in his warm praise of his homeland, the coast, the waters, the hills and the people is there any hint of emotion or any departure from a lusterless recital of events. Alonso rarely appears from behind his verbal barricade of casual, factual narration. Even the great tragedy of Guernica, which so moved the world and which prompted the famed mural of Picasso, is recounted thus: "Then came Guernica which we erased from the face of the earth which raised an outcry throughout the world."

Physicians will find little to learn, much less to relive of their own experiences, and almost nothing to enjoy from this book.

A. C. Wyman, M.D.

Diagnosis and Therapy of the Glaucomas. Bernard Becker, M.D., and Robert N. Shaffer, M.D., F.A.C.S. Price, $18.00. Pp. 360, with 230 illustrations and 5 plates in full color. St. Louis: Mosby, 1961.

The authors exhibit a thorough knowledge of the subject of glaucoma in this volume. This knowledge of a certainty is in great part the result of many years of animal research and experimentation. The book represents a well organized discussion of the particular subject. Chapters are devoted to classification of the glaucomas, anatomy of the angle of filtration of the anterior chamber of the eye, formation of aqueous humor, outflow facility, and intraocular pressure. Other chapters deal with methods of gonioscopy, field changes and their clinical evaluation, medical and surgical techniques.

In this volume are discussed the techniques of gonioscopy and tonometry. Tonography with tables for interpretation occupies a prominent position in this book, with one complete chapter, the last, devoted to tonograms and what they reveal to the ophthalmologist.

Of special interest, to this reviewer, is the chapter devoted to congenital glaucoma and the surgical procedure of goniotomy. Beautiful illustrations step by step are shown—graphic results of practice goniotomies on animal eyes.

The authors have provided at the end of each of the eight sections an adequate list of references. These references may serve the purpose of saving readers the tremendous and repetitive task of reviewing the literature.

In general I can recommend this volume to all practicing ophthalmologists and residents in training in ophthalmology. The effort covers practically all aspects of the glaucomas in short, concise, and thorough ways. It is a most comprehensive work embraced in a comparatively short book

Thomas A. Egan, M.D.

Hypertension—Recent Advances: The Second Hahnemann Symposium on Hypertensive Disease. Edited by Albert N. Brest, M.D., and John H. Moyer, M.D. Price, $12.00. Pp. 660, illustrated. Philadelphia: Lea, 1961.

This compendium of papers represents material presented at the most recent Hahnemann Symposium on Hypertensive Disease. Approximately 105 well-established basic and clinical investigators contributed to this Symposium with papers and discussion pertinent to their particular work and to the subject of hypertension in general. The presentation of the papers is orderly and unusually well organized. The subjects covered take into account all recent advances in hypertension and range from the natural history of hypertension through etiologic mechanisms, pharmacology of hypertensive agents, to major therapeutic considerations currently acceptable in the treatment of clinical hypertensive states.

It is difficult to pinpoint the most important papers, but attention should be given to the reports of Genest and Laragh, whose studies have shown the relationship of aldosterone secretion to angiotensin release from the kidney, a very important current advance. Another article of particular interest is the report of Dr. Gifford and the Mayo Group of their clinical experiences in 71 cases of pheochromocytoma. This study is of exceptional clinical interest.

All individual papers have a well annotated bibliography, and the editorial work of Dr. Brest and Dr. Moyer is superb. There is a complete subject index included.

This book is unusually well done compared to other reported symposia, and is of definite value to the practicing physician. It is so well organized that it can be highly recommended for current use, both in clinical situations as well as in bringing one up-to-date quickly on the current status of various facets of diagnosis and treatment of hypertension.

Richard J. Meyer, M.D.

(Continued on page 28)

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By DUNCAN E. REID, M.D., William Lambert Richardson Professor of Obstetrics and Head of the Department of Obstetrics and Gynecology, Harvard University Medical School; Chief-of-Staff, Boston Lying-In Hospital. Illustrated by EDITH TAGRIN. 1087 pages, 7"x10", with 442 illustrations. About $20.00. *New—Just Ready!*

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By RALPH H. MAJOR, M.D., Professor of Medicine and of the History of Medicine; and MAHLON H. DELP, M.D., Professor of Medicine, The University of Kansas. 355 pages, 6½"x10", with 527 illustrations. About $7.00. *New (6th) Edition—Just Ready!*

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By FRANCIS HEED ADLER, M.D., Emeritus Professor of Ophthalmology, University of Pennsylvania Medical School; Consulting Surgeon, Wills Eye, Philadelphia General, and Children's Hospitals of Philadelphia. About 565 pages, 6"x9¼", with 288 illustrations, 26 in color. About $9.50. *New (7th) Edition—Just Ready!*

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Book Reviews

(*Continued from page 26*)

Disturbances of Heart Rate, Rhythm and Conduction. Eliot Corday, M.D., F.A.C.P., F.A.C.C., and David W. Irving, M.D. Price, $8.50. Pp. 357, with 223 figures. Philadelphia: Saunders, 1961.

Among the many texts published on arrhythmias, few have traveled far from the pure electrocardiographic approach. Drs. Corday and Irving, in their monograph, attempt to present an integrated simple electrocardiographic, physiological, and clinical approach. By necessity there is much oversimplification, but by and large the authors have produced a useful addition.

As one would expect from the title of the book and the background of the authors, electrocardiography is stressed and the unifocal theory of atrial dysrhythmias favored. There are numerous clearly reproduced diagrams, electrocardiograms, graphs, and phonocardiograms, illustrating the discussed entities.

After an initial chapter reviewing anatomy and physiology, individual disturbances are discussed. Their etiology, mechanism, description, hemodynamics, clinical signs and symptoms, electrocardiographic alterations, treatment, and prognosis are briefly reviewed. A liberal sprinkling of case histories and personal experience gives added flavor.

Of the chapters on hemodynamic disturbances, bedside diagnosis, cardiac arrest, association with myocardial infarction, surgery, electrolytes, and emotion, the first is the most outstanding. The last chapter reviews drugs used in the treatment of arrhythmias and disturbances of conduction.

The authors have constructed an easily comprehended introduction into arrhythmias and conduction disturbances. It can be recommended for medical students, practitioners, and house officers unfamiliar with the subject. Internists and residents in internal medicine will probably find this much too abbreviated and lacking in details for their needs.

Stanley M. Silverberg, M.D.

Psychiatry—Biological and Social. Ian Gregory, M.A., M.D. (Camb.), D. Psych. (Tor.), M.P.H. (Mich.). Price, $10.00. Pp. 577. Philadelphia: Saunders, 1961.

The author of this new textbook is the Coördinator of Undergraduate Education in Psychiatry at the University of Minnesota. Dr. Gregory covers the various psychiatric concepts and diagnostic entities in a concise, clear manner. There are also discussions of such topics as Frequency and Distribution of Psychiatric Diagnoses, Social and Cultural Factors, Somatic Factors, Marital Problems, and Death. The bibliography is complete, and the text is heavily illustrated with graphs and charts.

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Statistics are included from Canadian, English, and European sources, as well as from our own country. The application of international experience is necessary in medicine, but it can be especially treacherous in psychiatry, where identical terms can have widely differing meanings. As Dr. Gregory points out, the statistical study of mental disorders is not yet clearly established. Accordingly, the chart illustrating the wide variation in the expectation rate of schizophrenia from country to country (table 41, page 368) is difficult to interpret.

As is always the case in medicine, recent advances date the textbooks, and this is true here, since recent information on chromosomal aberrations, such as the 21-trisomy of mongolism, has not been included. On the other hand, there is a clear discussion of the disadvantages in the twin method of the study of hereditary influences on emotional disorder, and there is a chapter on methodology in research.

At the head of each chapter there are quotations—some surprisingly cogent—from widely selected literary sources, and there are occasional quotations in the text as well. These illustrate the connection between psychiatry and literature.

In summary, then, this is a new textbook of psychiatry of wide perspective. It is readable and informative and will be useful to the medical student and to the physicians in other specialties who wish to clarify those points which arise in their daily work.

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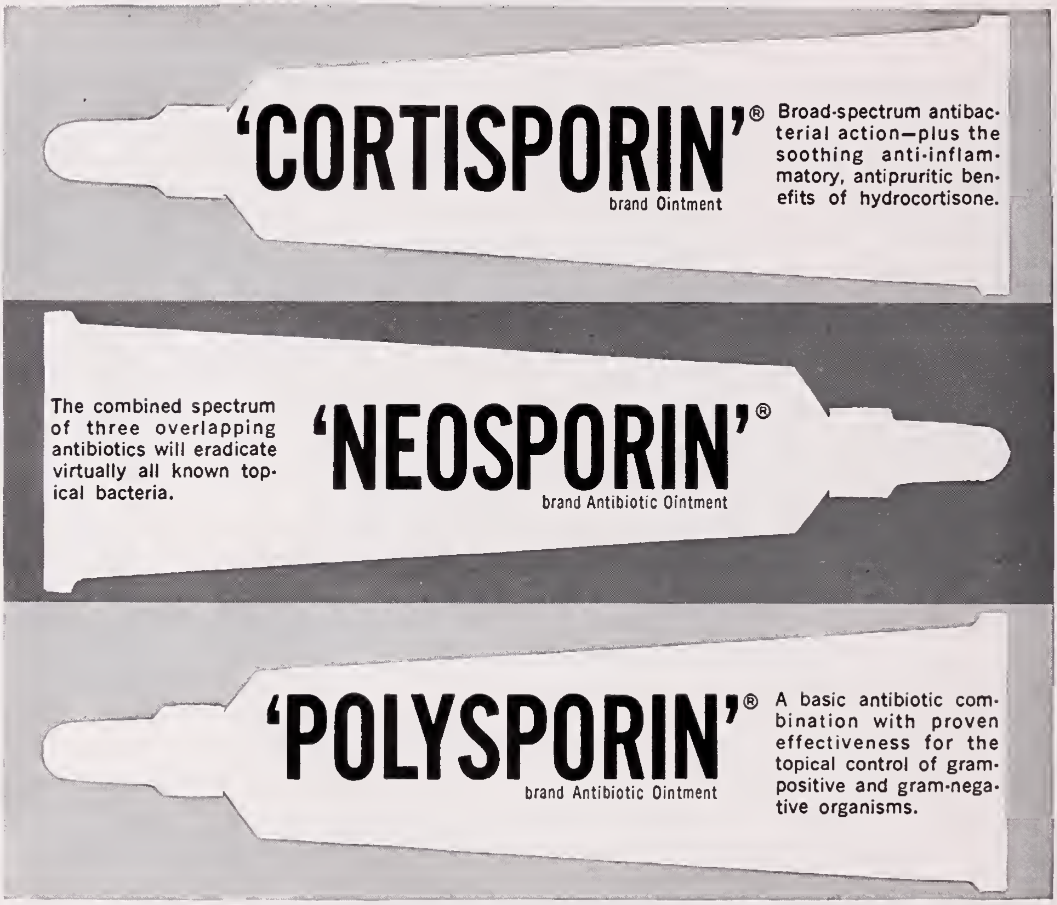

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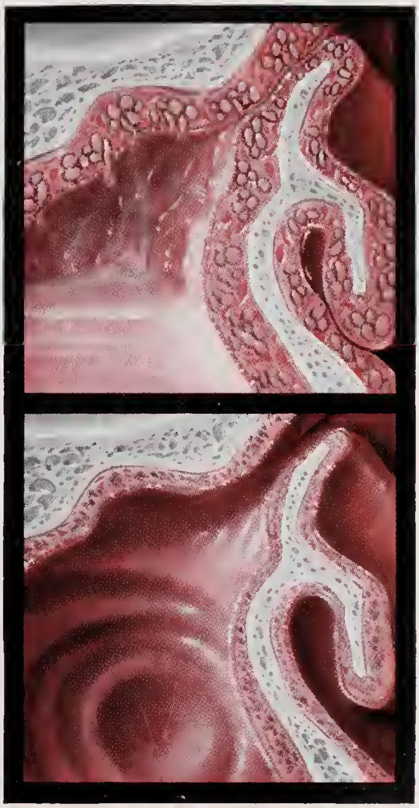

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[1] Accumulated reports from thirty-six clinical investigators: Lilly Research Laboratories.

MEDICAL ANNALS
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Chemotherapy of the Malignant Lymphomas and Leukemias*

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Although a chemical "cure" has not been discovered, there has been remarkable progress in the chemotherapeutic control of malignant lymphomas and leukemias. This progress has all occurred within the last 19 years.

The malignant lymphomas may be classified as follows:

1. Giant follicular lymphoma
2. Lymphosarcoma
    a. Lymphocytic
    b. Lymphoblastic
3. Hodgkin's disease
    a. Paragranuloma
    b. Granuloma
    c. Sarcoma
4. Mycosis fungoides
5. Reticulum-cell sarcoma

The leukemias may be divided for treatment purposes into the following groups:

1. Chronic granulocytic leukemia
2. Chronic lymphatic leukemia
3. Acute leukemias. From a treatment standpoint, all types of monocytic leukemias are included under the acute leukemias.

In considering the therapy of the lymphomas, it is helpful to divide the disease process into three stages:

Stage 1. The disease is restricted to lymph nodes in one region of the body, solitary foci in the skin or mucous membrane of the eye, mouth or gastrointestinal tract, which can be completely removed surgically or treated with one X-ray field. Therapy is usually X-radiation. Radical surgery is considered if the node is in the high cervical, low axillary, or femoral regions.

Stage 2. The disease is in two adjacent lymph node regions, e.g., supraclavicular and axillary on the same side, or supraclavicular and mediastinal. If the patient is without constitutional symptoms, X-ray therapy is the treatment of choice. With constitutional symptoms, chemotherapy followed by X-ray therapy is the treatment of choice.

Stage 3. The disease is generalized with widespread lymphadenopathy or infiltration of extranodal tissues, such as lung, bone, kidneys, gastrointestinal tract, skin, central nervous system, liver, spleen, and bone marrow. Therapy is usually chemotherapy. X-ray treatment is often required in addition, depending on the sites involved.

The useful agents in the chemotherapy of the malignant lymphomas and the leukemias may be divided into three main groups, alkylating agents, antimetabolites, and adrenal steroids. Representatives of these groups which are generally conceded to be useful are listed as follows:

---

* Delivered at the 29th Annual Scientific Assembly of the Medical Society of the District of Columbia in Washington, D. C., November 29, 1961.

1. Alkylating agents:
   a. Nitrogen mustard (Mustargen®)
   b. Chlorambucil (Leukeran®)
   c. Cyclophosphoramide (Cytoxan® or Endoxan®)
   d. Busulfan (Myleran®)
2. Antimetabolites:
   a. Folic acid antagonists: amethopterin (Methotrexate®), the commonly used representative of this group.
   b. Purine antagonists: 6-mercaptopurine (Purinethol®), the most widely used representative of this group.
3. Adrenal steroids: The prednisone derivatives have the advantage over cortisone and hydrocortisone in that less serious electrolyte imbalance occurs.

NITROGEN MUSTARD

Historically, nitrogen mustard was the first drug ever to be used systemically in the treatment of the lymphomas and the first of the alkylating agents to be used. Gilman and Philips[1] first used this compound in 1942. In 1943 one of our Liberty ships carrying a cargo of nitrogen mustard was sunk. Alexander treated some of the casualties. He reported his findings[2] and sent tissue back to the United States. This knowledge was quickly utilized in the treatment of the lymphomas and chronic lymphatic leukemia. The standard dose for intravenous injection is 0.4 mg. per Kg. of body weight. Nitrogen mustard is supplied in 10 mg. vials as a dry powder. It is dissolved in 10 ml. of saline solution and administered immediately. It is usually injected rapidly into the rubber tubing of a freely flowing saline infusion, with immediate flushing of the vein to reduce the danger of thrombophlebitis. Care must be taken to avoid spilling of any of the solution on the skin because of its local vesicant action. Ausman and his co-workers[3] have recently reported that nitrogen mustard is more stable than we have realized. In the future the urgency of injecting HN_2 after it has been mixed may be less important.

The maximum depression of the bone marrow is usually reached in about three weeks, followed by a prompt recovery.

Nitrogen mustard is of value in the treatment of all of the lymphomas and has been used in chronic lymphatic leukemia. Because its administration requires hospitalization and the undesirable side-effects of nausea and vomiting accompany its administration, the use of this compound is on the wane at the present time. Oral mustards have tended to replace HN_2 except that the latter is still a valuable agent in the treatment of Hodgkin's disease.

The effects of nitrogen mustard are variable, and remissions have been known to last from a few weeks up to several years. The latter is especially true in Hodgkin's disease.

CHLORAMBUCIL

Chlorambucil (Leukeran) was initially reported by Galton[4] in 1958. This compound has proved to be a very valuable oral agent in the treatment of the malignant lymphomas and chronic lymphatic leukemia. Side-effects are unusual, with a rare patient having nausea or a skin rash. Bone-marrow depression, if it occurs, recovers promptly when the drug is discontinued.

Leukeran is dispensed in 2 mg. tablets. The total dosage is 0.2 mg. per Kg. of body weight per day. This dose is usually given about one-half hour before breakfast. The large number of tablets are well tolerated, and absorption from the gastrointestinal tract seems to be complete.

Patients should be told that they will notice little change in the size of the lymph-node enlargement during the first three to four weeks. There is little change in the leukocyte or platelet count during this period. Maximal therapeutic effects are seen during the sixth to eighth weeks. If there is no response after eight weeks, there is usually little value in increasing the dose of the compound or continuing the Leukeran for longer periods of time.

Leukeran is most useful in the treatment of chronic lymphatic leukemia, giant follicular lymphoma, and the lymphosarcomas. It is of little use in the treatment of Hodgkin's disease or reticulum-cell sarcoma.

Repeated courses of Leukeran may be given or the patient may be maintained on small daily doses of Leukeran. Eventually resistance develops.

CYCLOPHOSPHAMIDE

Cyclophosphamide (Cytoxan) is inert prior to its administration, and it must be hydrolyzed by an enzyme, phosphamidase, to convert it to the active form. The compound is also of interest in view of its apparent platelet-sparing action. Doses that are sufficient to produce a leukopenia in the majority of patients may not cause a severe thrombocytopenia. This is well illustrated in one of Wall's cases which he recently reported.[5]

Cytoxan may be given either orally or intravenously. Usually we have started patients on 5 mg. per Kg. of body weight intravenously if the patient's peripheral blood values are satisfactory. Nausea and vomiting may develop of such severity that the dosage has to be reduced. The drug is continued until the leukocyte count falls below 2,000 per c.c. If no improvement is noted with a dosage schedule that results in leukopenia, the compound is discontinued. If improvement is noted, the patient is placed on from 3 to 5 mg. per Kg. of body weight orally. Cytoxan should not be given if the leukocyte count is below 2,000 per c.c.

Wall[5] has suggested giving 50 mg. of Cytoxan when the leukocyte count is between 2,000 and 4,000 per cu.mm., 100 mg. when the leukocyte count is between 4,000 and 6,000 per cu.mm. Larger doses are given if the leukocyte count is above 6,000 per cu.mm.

Side-effects are nausea and vomiting, alopecia, and bone-marrow depression. Nausea and vomiting can usually be controlled by reducing the dose. Alopecia is frequently seen, but fortunately the hair loss is temporary. Usually, patients are tolerant of this loss of hair if they are forewarned. Bone-marrow depression is usually temporary and recovery prompt. However, this is not always the case, and severe leukopenias or thrombocytopenias should be avoided.

This compound has a wide spectrum of activity. It is effective in the treatment of most of the lymphomas, and occasionally it will produce a remission in the acute leukemias. It is useful in the treatment of reticulum-cell sarcoma and Hodgkin's sarcoma. Unfortunately, the remissions are usually of brief duration.

MYLERAN

Myleran is a dimethanesulfonoxybutane. Both of the methane sulfonoxy components are very reactive, thus giving a polyfunctional alkylating agent.

Myleran is at present the most satisfactory agent in the treatment of chronic granulocytic leukemia. In this disease initial dosage is 6 mg. daily. It is given in a single dose one-half hour before breakfast. It is well tolerated and seems to be uniformly absorbed. The daily dose level of 6 mg. per day is continued until the leukocyte count has reached about 50 per cent of the initial level. The dose is then reduced to 4 mg. daily. When the leukocyte count falls below 15,000 per cu.mm. the daily dose is reduced to 2 mg. The aim of further therapy is to keep the leukocyte count between 5,000 and 15,000 per cu.mm. The dose necessary to acomplish this varies, but it is usually between 4 mg. daily to 2 mg. three days per week.

In the average case the leukocyte count falls to the normal or near normal range within four to ten weeks. There is an accompanying decrease in spleen size. If the leukocyte count falls below

5,000 per cu.mm. or the platelets below 100,000 per cu.mm., Myleran should be discontinued. When the thrombocytopenia has corrected itself and the leukocyte count shows a progressive increase, treatment may be restarted at 50 per cent of the former dose.

A hypoplastic bone marrow secondary to Myleran is a very serious situation. This can be avoided by frequent and accurate blood counts. During the initial control period counts should be obtained once a week. Later, when the patient is on maintenance therapy counts should be obtained at least once a month.

FOLIC ACID ANTAGONISTS

The clinical use of the folic acid antagonists was initiated by Farber and his associates[6] in 1948, when they discovered that aminopterin was an effective chemotherapeutic agent in the treatment of children with acute leukemia. This led to a large number of modifications of the folic acid molecule with the most successful one being amethopterin, or Methotrexate. At the present time Methotrexate is the most commonly used folic acid antagonist. It is useful in the treatment of acute leukemia of children and young adults. Adults are usually unable to tolerate the toxicity of this compound, and the acute leukemia of adults is usually not responsive to Methotrexate.

In acute leukemia, therapy may be started with Methotrexate with a daily dose of 2.5 mg. Children under two years of age should receive a smaller dose. This dose is continued until there is a remission, failure to respond, or evidence of toxicity. If there is failure to respond and the drug is well tolerated, the daily dose may be increased to 3.75 mg. or finally to 5 mg. At least four weeks of therapy are necessary before it can be concluded that improvement will not occur.

Pancytopenia, ulcers about the oral cavity, diarrhea, nausea and vomiting are all warning signs of drug toxicity. Toxicity requires that the Methotrexate be discontinued. Supportive therapy should be given until the individual has recovered. The compound can then be restarted at a 50 per cent lower dose. If a remission, either partial or complete, is achieved, a maintenance regimen is undertaken. This must be individualized as to the daily or weekly dose. Maintenance therapy is continued until a relapse occurs. At this time the patient is started on Purinethol or the adrenal steroids. Cytoxan will also have to be considered as another useful agent.

PURINE ANTAGONISTS

6-Mercaptopurine was first synthesized by Elion[7] in 1952. It differs from adenine in that a mercapto group is substituted for the amino group in the six position. 6-Mercaptopurine, or Purinethol, continues to be the most useful member of the purine antagonist group. It is of value in the treatment of the acute leukemias and chronic granulocytic leukemia.

The dosage of Purinethol is generally 2.5 mg. per Kg. of body weight. This is given orally. Purinethol is continued for three to eight weeks or until a remission occurs. Maintenance therapy is at the same dose level or slightly smaller dose. The plan of therapy is approximately the same for both the acute leukemias of children and adults and for chronic granulocytic leukemia. Toxicity is minimal. Occasional bone-marrow depression and gastrointestinal disturbances occur. These usually respond to a decrease in the dosage.

ADRENAL STEROIDS

The corticosteroids are of value in the emergency treatment of acute leukemia and of the hemolytic anemias and thrombocytopenias that occur in chronic lymphatic leukemia and the lymphomas. Some of the newer steroids seem to have less side-effects, especially electrolyte imbalance. The usual attention, however, to electrolyte balance and observation for the development of hypertension and diabetes continues to be important.

Prednisone, prednisolone or triamcinolone are the steroids most commonly used at the present time. Triamcinolone is a satisfactory compound. The dosage is initially from 30 to 60 mg. daily, depending upon the acuteness of the situation. Children under 60 pounds of weight should receive a smaller dose. The steroid is given in divided doses. After a satisfactory response the dosage is reduced gradually until the optimum maintenance level is reached. An occasional case of hemolytic anemia or thrombocytopenia will do well on exceedingly small doses of the steroids. Titration to the lowest effective dosage is important in this situation, since long-term therapy is usually necessary.

The indications for the initial use of steroids in the acute leukemias are signs of marked toxicity and bleeding. Corticosteroids may be especially effective if the leukemia is of the lymphocytic type. In children, if a remission is brought about, the steroid dosage is gradually reduced to a low maintenance level, then discontinued. Long-term management is not desirable because of the increased susceptibility to infection and since the remissions are usually short. Few adults show a complete remission, and any remission or improvement is of short duration.

SUMMARY

Chemotherapeutic agents up to the present time are never curative, and it has not been shown conclusively that life expectancy of patients with malignant lymphoma or leukemia has been prolonged. I cannot help but express the opinion, however, that with some patients I have had the opportunity to observe life expectancy has been extended. However, there is no doubt that the period of morbidity has been reduced and that many patients are able to return to normal activity.

In spite of the literally thousands of compounds that have been tested in the last few years, none have proven more effective than the ones that I have discussed today. This, taken at its face value, is discouraging. However, when one considers how little we know about cell metabolism and the relatively short time these compounds have been available, he sees that remarkable progress has been made.

The goal of chemotherapy at the present time should be to produce symptomatic and objective improvement and to allow the patient to return to normal activity as far as possible. This objective should be constantly kept in mind when treating patients with these diseases.

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Progress in Cardiac Transplantation*†

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THE PROBLEMS INVOLVED in cardiac transplantation are threefold: (1) maintenance of the viability of the heart during the surgical procedure, (2) technical methods of reimplantation, and (3) modification of the immune response to permit prolonged survival. This report will concern only the first two of these, in which considerable progress has been made.

Preservation of the heart requires depression of its metabolism to an extremely low level during the period of ischemia or a method of interim perfusion. Most experiments have utilized hypothermia to reduce cellular metabolism to prolong viability. Kuliabko[1] in 1902 restored cardiac contractions in the heart of a 3-month-old child 19½ hours after death. Kountz,[2] utilizing the Langendorf perfusion apparatus, found a much shorter period of survival of adult human hearts. In 1939 Ossinowsky[3] extended these observations and demonstrated contractility in 20 per cent of the hearts of infants as long as 24 hours after death. These hearts, however, could not support a normal circulation, and Blumgart[4] established a more realistic evaluation of the ischemic heart. In his experiments no gross or persistent electrocardiographic evidence of an infarct was produced by occlusion of a coronary artery up to 20 minutes. Gross evidence of an infarct was readily demonstrable if the occlusion was maintained from 20 to 45 minutes, and after 45 minutes the effect was the same as if the occlusion were permanent.

Crowell and Smith[5] many years later evolved the concept that intravascular clotting produces total obstruction of the capillary bed. This plays a most important role in the irreversible processes in the heart and in the brain that occur during cardiac asystole. They reported recoveries even after an hour of asystole if the animal is heavily heparinized. In later work we demonstrated that the heart can be maintained at room temperature for a period of at least 90 minutes without circulation if the heart is heavily heparinized or if the blood is perfused from the coronary capillary bed to prevent the formation of obstructing clots.[6] It is interesting that Guthrie and Carrel[7-10] in their work 50 years previously had perfused the heart, kidney, spleen, intestines, leg or other transplanted tissues with saline or Locke's solution prior to reimplantation.

Mann, Priestley, Markowitz and Yater,[11] in 1933, in transplanting hearts by anastomosis to the neck vessels of recipient animals, utilized heparinization of the donor heart. In this technique, first used by Carrel and Guthrie[7] in 1905, the host carotid artery is anastomosed to the transplanted aorta and the transplanted pulmonary artery to the host jugular vein. Likewise, they emphasized a principle that has been recognized as most important in recent years, particularly with open cardiac surgery, namely,

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that the heart must be protected from overdistention at all times; otherwise this mechanical stretching impairs or totally prevents recovery of normal contractility.

Later experiments demonstrated that hearts which had been treated with large doses of heparin (10 mg. per Kg.) or which had been perfused with lactated Ringer's solution to remove all blood could be refrigerated to prolong the period of extracorporeal survival.[12] The hearts were excised, immediately chilled in Tyrode's solution with 10 per cent serum, and maintained at 4°C for periods ranging from 6 to 72 hours. After 8 hours of refrigeration restoration of function was excellent after reimplantation into the neck of another animal. To further test the functional capacity of the heart a heavy work load was placed on this transplanted heart, according to the technique of Marcus, Wong and Luisada,[13] by anastomosing the proximal carotid artery into the left atrium. These hearts were able to support this work load, which amounted to normal cardiac output. After 18 to 24 hours hearts were able to return to good tone and fair function but were not as satisfactory as those refrigerated for a shorter period. Hearts which had been heparinized with only 1 mg. of heparin per Kg. or had cardioplegia induced with potassium citrate did poorly.

These experiments established that hearts can be maintained extracorporeally for at least 8 hours, which is adequate time for transplantation, but only on an emergency basis. It will not allow the establishment of a cardiac bank or planned procurement. In spite of many efforts with various techniques, there has been no success in attempts to freeze and rewarm hearts. Barsamian[14] utilized mechanical dehydration and glycerol saturation to supercool puppy hearts to −8°C without freezing. These hearts could be resuscitated, but further cooling to freezing always produced an irreversible injury. We have been able to reversibly reduce the heart temperature to about −2°C with glycerol protection, but again lower temperatures with freezing are destructive.[15]

In view of the possibility of transplanting the lungs either alone or along with the heart, the work of Potts[16] and Wesolowski[17] in evaluating refrigerated lungs is important. Both found that refrigerated lungs are not satisfactory for reimplantation, since they rapidly develop pulmonary edema.

TECHNIQUES

Transplantation of the heart along with the lung is intriguing because technically it is quite simple. In 1953 Neptune, Cookson, Bailey, Appler and Rajkowski[18] reported transplantation of the heart with the lungs in three dogs under general body hypothermia, with one surviving 6 hours. Marcus, Wong and Luisada[13] transplanted the heart and lungs into the abdominal cavity of dogs, anastomosing them to the aorta and inferior vena cava. This heart-lung preparation was able to maintain life temporarily while the animal's own heart and lungs were excluded from circulation. We have performed homologous and autologous transplantation of the heart with both lungs, but in each we encountered the physiologic impass of respiratory insufficiency.[19] Extensive work into this problem has suggested that total pulmonary denervation will inevitably produce respiratory paralysis, presumably because of loss of the afferent end of the respiratory reflex arc.[20] This work has been confirmed by the work of Linberg and his associates,[21] who found similar respiratory insufficiency after transplantation of the lung by itself. Although they were able to obtain a functioning lung after reimplantation in the dog with some degree of success, they likewise found that the dog could not continue spontaneous respiration. In additional experiments we have transplanted the heart and one lung.[22] The recipient animals with one remaining normally enervated lung are able to resume spontaneous breathing and maintain cardiopulmonary function. Transplantation of the heart with the right lung is technically much easier than transplantation of the heart with the left lung because of the difficulty of the bronchial anastomosis beneath the arch of the aorta.[23]

Transplantation of the heart by itself, if done at the venous level, requires anastomoses of the two venae cavae, four pulmonary veins, the aorta and pulmonary artery. Technically, this is extremely time-consuming unless some type of couple is used. Berman and his associates,[24] rather than utilizing individual anastomoses of the pulmonary veins, divided each side with an atrial cuff, thus reducing the number of anastomoses from eight to six. They achieved successful survivals for 21 to 117 minutes. In our own experience with this method, utilizing small couples for the venous anastomoses, the transplanted hearts were able to survive up to 1½ days. The longer survivors of cardiac transplantation were able to breathe spontaneously. Electrocardiograms revealed a slower rate as expected in a denervated heart, and the only significant change was depression of the S-T segments, suggesting the effects of anoxia.

Several important observations came to light during this experience. One was the confirmation that chilling the heart would enable it to be exteriorized from 2 to 4 hours and resume satisfactory function. Coronary air embolism is a great hazard and can be avoided by having vents in the left ventricle and in both atria to remove all air prior to reinstitution of circulation. Overdistention of the heart had to be avoided at all times, and this likewise could be achieved by use of atrial and ventricular vents. The chilled hearts are very susceptible to mechanical trauma, and must be handled with extreme care, particularly during cardiac massage, if such becomes necessary. In addition, these chilled anoxic hearts are extremely sensitive to the action of drugs such as calcium or adrenalin. Also, the long period on the pump-oxygenator and the tremendous raw surfaces developed in the procedure often lead to an uncontrollable hemorrhagic diathesis. Fortunately, the human is less prone to this than is the dog.

More recently, Lower, Stofer and Shumway[25] have described an extremely interesting technique in cardiac transplantation which technically is much simpler than the methods mentioned above. In this, both ventricles are transplanted along with a cuff of both atria. This requires re-anastomosis of the aorta, the pulmonary artery, and the atrial septum along with the rims of both atria. This technique, which in essence is transplantation of the ventricles rather than the total heart, appears very promising for acquired heart disease involving the valvular structures or coronary arteries. It may not be applicable to many of the congenital lesions involving the great vessels or the atria as well. The most interesting facet of their report is that one of the animals survived up to 21 days before the immunologic response destroyed the homotransplanted heart. This is in marked contrast to previous work in which hearts transplanted into the neck had a maximal survival of 10 to 12 days.[26, 27]

SUMMARY

In summary, the historical development of the principles and present experimental practices in cardiac transplantation have been reviewed. Cardiopulmonary transplantation does not appear feasible because of the physiologic impasse of respiratory paralysis of the denervated lung. Cardiac transplantation appears feasible from the standpoint of time and technique, though admittedly quite difficult. Clinical application awaits successful modification of the immunologic responses.

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(*Continued on page 248*)

Magic Medicine for Malignancy?*

For Endocrine-dependent Tumors

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FOR A MEDICINE to be termed truly magic, it should have two characteristics: spectacular effectiveness at times and an incomprehensible mode of action. The physician has such truly magic medicines today. At times they have proved effective against endocrine-dependent tumors, but, despite impressive explanations as to their antitumor action, closer scrutiny suggests the method of action remains incomprehensible. We know what is likely to be beneficial sometimes, but we do not really know why.

What is an endocrine-dependent tumor? It is commonly defined as a tumor that arises in a gonad-related tissue and is dependent on sex steroids for growth and maintenance. Cancer of the breast is the basis for this definition, but the definition has been extended to all tumors arising in sex-related organs.

Is there such a thing as an endocrine-dependent tumor? Certain mammary carcinomas seem endocrine-dependent because spectacular improvement follows castration and removal of major estrogen sources. Endocrine dependency does not explain why a remission is sometimes induced later by adding the estrogens again. A second observation that casts doubt on the concept of endocrine dependency is the action of Δ^1-testololactone,[1] seemingly a biologically inert steroid, in causing definite remissions of breast carcinoma. Δ^1-Testololactone is a steroid molecule with the 5-carbon ring D opened and an oxygen atom introduced to make it a 6-member ring. This steroid lacks any discernible clinical hormonal effects and has not altered the usual urinary hormone measurements. A third feature casting doubt on the concept of endocrine dependency is an effect of dosage variation. For instance, some of our unpublished data concerning rat mammary adenocarcinoma, R 3230, show the tumors to be stimulated by one dose of estrogens, held barely in check by ten times that amount, and inhibited and made smaller by another ten-fold increase in the dose of hormones. This certainly suggests tumor-hormone relationships other than dependency. Therefore, it is suggested that the term "endocrine-responsive" be substituted for "endocrine-dependent." This should lead to less dogmatic therapy and better utilization of empiric knowledge.

Before magic results with endocrines are discussed, certain factors must be kept in mind. First, we must never forget that present endocrine therapy is only palliative. One must be certain that all avenues of curative surgical procedure and radiation have been considered. Second, solitary or localized manifestations of malignant tissue are best managed by surgical procedure and radiation. Finally, we must never neglect diagnosis. Curable noncancerous conditions will be missed if recurrent malignant tumor is assumed rather than proved.

Breast carcinoma is the classic example of an endocrine-responsive malignant tumor. The physician who treats such patients with endocrines is advised to read the report of the Cooperative Breast Cancer Group,[2] which outlines a practical, detailed approach to endocrine palliation of breast cancer. It documents the difference in prognosis for patients with breast cancer according to their menopausal age and the site of dominant metastatic lesion. This information is necessary to understand the natural history of metastatic breast carcinoma and to improve patient care.

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When the metastatic disease becomes active and endocrine palliation is indicated, if the woman has had a menstrual period during the previous 12 months, ablation of ovarian function should be the first endocrine therapy. Surgical castration is a relatively simple, safe operation which insures rapid cessation of ovarian function. In addition, pathologic examination of the ovaries will often yield valuable information. Radiation castration is also available. If radiation therapy is indicated for osteolytic lesions, radiation castration may be conveniently done at the same time. Castration has usually been reported to result in a 30 to 40 per cent objective remission rate.

For metastatic disease that is progressing again after castration or in the postmenopausal woman, many physicians prefer androgens. A recent report concluded that objective remission occurred in 38 per cent of patients treated with estrogens as contrasted with only 27 per cent of those treated with androgens.[3] Why, therefore, use androgens first when a study of almost 1,000 patients suggested estrogens were superior? The work of the Coöperative Breast Cancer Group suggests that these remission rates are not comparable because the androgen results occurred in a younger group of women who have a worse prognosis than the older group that received more estrogens.[2] The question is not yet completely settled.

Which androgen should be used? Testosterone propionate intramuscularly three times a week remains the standard androgen. An equally effective but reportedly less androgenic hormone is 2α-methyl-dihydro-testosterone propionate.[4] This hormone is just now becoming generally available. Fluoxymesterone, which has been available for several years, is effective on the same order as testosterone, has less objectionable androgenicity, and has the advantage of being available in tablets.[5] The antitumor dose is 5 mg. tablets four times daily.

Estrogens can be effective palliative therapy for mammary carcinoma. Particularly dramatic remissions sometimes occur in cutaneous metastases of women who are five to ten years or more postmenopausal. Diethylstilbestrol, 5 mg. orally three times a day, is an effective dosage. No particular estrogen preparation has shown significant effectiveness over any other when given in doses of equivalent activity. Nausea may be encountered during the initial treatment with estrogens, but this tends to subside as therapy is continued. Estrogen therapy may cause remarkable improvement of cutaneous metastases while the more serious bony and visceral lesions continue to enlarge. Periodic evaluation of bony and visceral lesions is therefore imperative.

Progestational agents have not shown sufficient palliation of breast cancer to justify their clinical use at the present time.

Corticoids such as prednisone, 5 mg. four times daily, or dexamethasone, 0.5 mg. four times daily, have shown definite palliative antitumor activity in mammary carcinoma. They may be used following androgens and estrogens. In addition, corticoids may be remarkably effective in combating hypercalcemia, symptoms of cerebral metastases, and the general malaise of advanced cancer.

Ablative glandular surgery can be magic medicine for breast cancers. Spectacular, prolonged remissions may follow bilateral adrenalectomy or hypophysectomy. There is no general agreement on the optimum time for these operations. A study of more than 400 cases each of adrenalectomies and hypophysectomies indicates a postoperative mortality rate of 9 per cent.[6] Such operations are extensive and expensive. Consider the plight of the woman who has had her ovaries taken out, whose one breast has been removed and the remaining breast is ulcerated, to whom it is proposed that she be deprived of her last visible vestige of femininity by having her head shaved. It is a marvel that women will submit to such procedures. This introduces two important criteria for selection of patients and timing of operation. First, one must demonstrate that the patient has a truly endocrine-responsive tumor. She should have had an objective response to castration, androgens or estrogens, of sufficient magnitude and duration to justify such a formidable procedure. Second, her disease must be sufficiently distressing to warrant the contemplated surgical procedure. For instance, are a few cutaneous recurrences really an adequate reason for bilateral adrenalectomy? An important preoperative consideration is the availability of a physician willing to manage the patient's supportive corticoid therapy for the rest of her life. No hard and fast rules can be made for selection of patients. Despite drawbacks, these ablative surgical procedures are important forms of magic medicine.

Cancer of the ovary is not responsive to any of the presently available endocrine agents. It is best treated by chemotherapy with alkylating agents or one of the antimetabolites. In like manner, malignant tumors of the cervix and vagina are not properly classified as endocrine-responsive with the presently available hormones. When metastatic, these are best treated with radiation and chemotherapy.

Carcinoma of the endometrium is reasonably classified as an endocrine-responsive tumor. Hydroxyprogesterone caproate, 500 mg. intramuscularly three times a week, is the best tolerated active progestational agent in adenocarcinoma of the endometrium. Objective remissions occur in about 30 per cent of cases.[7] Although the action of progestational agents on the endometrium is known by their results, the metabolic mechanism of tumor inhibition is not known, and therefore, again, this is magic medicine.

Choriocarcinoma in the female is a rare endocrine-producing carcinoma but is not therapeutically endocrine-responsive. One of the most exciting developments in cancer therapy was the apparent cure of some female patients with choriocarcinoma by administration of the folic acid antagonist, Methotrexate.® Although the results are less than perfect, this is a substantial advance for chemotherapy. In choriocarcinoma of the male, even converting a male to an endocrine pseudofemale by castration and estrogen administration does not result in a tumor responsive to Methotrexate alone.

Carcinoma of the thyroid may sometimes be slightly suppressed by massive doses of thyroid, but this is not really an endocrine-responsive carcinoma.

Carcinoma of the prostate traditionally has been considered an endocrine-responsive tumor. Recently, however, there has been doubt concerning the extent of this endocrine-responsiveness. Castration and estrogen therapy are still considered important primary palliative measures. Subsequent estrogen therapy was held to be an effective measure with no major dissenting opinions. Now, however, coöperative studies utilizing placebos double-blinded against estrogens have indicated similar improvement in the placebo group on the same order as in the estrogen therapy group.[8] This at least suggests that closer attention to other forms of palliation for metastatic cancer of the prostate is in order. Chemotherapy in prostatic cancer has not been employed extensively. Practically all present chemotherapeutic agents impair bone-marrow function, and since the patient with extensive bony prostatic metastases is already a severe marrow cripple, chemotherapy will present additional problems. Anti-androgens are being synthesized and tested in animals, and it is hoped that these will prove of palliative value in carcinoma of the prostate.

Malignant tumors of the male gonads and accessories are not endocrine-responsive.

Finally, it would appear worth while to direct attention to tumors not usually considered endocrine-sensitive. Leukemias and lymphomas are definitely endocrine-responsive because of the effectiveness of corticosteroid therapy. In some of the experimental animal solid tumor screens against supposedly endocrine-insensitive tumors, certain hormones have been doing just as well as some of the chemotherapeutic agents. Endocrines are concerned with basic growth problems, so that their use is just as logical as chemotherapy. If we can take the word "magic" out of the medicines by discovering the mechanism of their antitumor activity, we will then be able to plan therapy that will be greatly superior to current methods.

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The Status of Oral Polio Vaccine*

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A YEAR AGO the Public Health Service presented here in Washington at the American Medical Association Clinical Session a symposium on the status of poliomyelitis and of polio immunization. It seems appropriate at this time to give a further progress report.

To understand the progress that has been made during the past year, it will perhaps be useful first to recapitulate certain happenings. Adequate records on the incidence of polio were not kept until the 1930's. During that decade the incidence was quite low. During the 1940's a gradual increase in incidence began to occur. Although the increase was a steady one, it was not constant from year to year. There were years of high incidence followed by low years. This general increase continued during the 1950's, reaching its highest level with over 21,000 paralytic cases in 1952; the next year showed a decrease to less than 16,000 cases, with an upswing again in 1954 to over 18,000.

The year 1954 was an historic one in the long history of polio, for during that year the field trials of Salk vaccine were initiated. On April 11, 1955 announcement was made of the efficacy of the vaccine.

Since 1955, when the vaccine first became available commercially, a dramatic reduction in poliomyelitis has occurred. In the five-year period of 1950 through 1954 the average incidence was 18,716 paralytic cases a year. In 1960 there were 2,525 paralytic cases a reduction of 88 per cent over the five-year average of the pre-Salk era. This year, 1961, there have been fewer cases than in any year since 1912, when records were first kept. As of October 28 there have been only 730 cases of paralytic polio, a reduction of 96 per cent over the five-year average of 1950–54.

What has brought this about? With over 400,000,000 doses of Salk vaccine distributed since 1955 undoubtedly the major factor has been the widespread use of Salk vaccine.

It would be inaccurate to give entire credit for this year's extremely low incidence, however, to the Salk vaccine. Poliomyelitis, as you know, is a cyclic disease, and it is quite possible that we are in a year of naturally low transmission of the virus. However, the remarkable decline in polio during these past six years is unquestionably due to the Salk vaccine, an achievement which, in my opinion, has been rightly described as one of the most dramatic achievements in preventive medicine in our time.

The picture is bright. There are, however, some dark shadows lurking in various corners. Up to the 1930's polio was referred to as infantile paralysis, a disease of infancy. During the 1940's and in the early 1950's the incidence of polio began to shift from infants to school children and young adults. Shortly after the introduction of Salk vaccine this trend began to reverse itself, with a high attack rate occurring once more in preschool children.

Another trend became discernible. Whereas 20 years ago polio was predominantly a disease of the upper socioeconomic groups, in recent years it has tended to occur more frequently in the lower socioeconomic segments of our society.

If one looks at the data that have been accumulated both from the surveys of the

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Bureau of the Census and from the Service's Communicable Disease Center, the reasons for these two phenomena become clear. Although 400,000,000 doses of Salk vaccine have been produced, a certain amount of selection in those who have received the vaccine has taken place. All our information indicates that those who are the best protected are school-age children, those from five to ten years of age. Estimates indicate that 82 per cent have had at least three doses. In the preschool age groups, on the other hand, less than 65 per cent have had three or more doses. Moreover, when these data are examined in terms of socioeconomic status of the vaccinated individuals, there is a direct relationship between the standard of living of the child's family—the lower the standard of living, the lower the vaccination level.

The fact that two-thirds of the Nation's preschool children have received three or more doses reflects great credit on the practice of medicine in this country. It bears eloquent testimony also to the energetic activities of organized Health Departments, voluntary agencies, the media of public information and education, and the hundreds of organizations and tens of thousands of individuals who have joined in the long fight against polio. There still remains, however, a hard core of unimmunized among whom localized epidemics have continued to break out.

Another noticeable change in the past six years has been in the attack rate among young adults. Prior to 1955 the highest incidence occurred among young females. Today the attack rates are noticeably higher among young males. One factor that likely has had a bearing on this trend is widespread recognition that pregnant women are particularly susceptible to polio. A consistent effort has been made to see that pregnant women are adequately immunized, and there has been an undoubted carry-over to other young women as a group.

These changes in polio—the reversion toward preschool children and a rise in incidence in young men—led the Public Health Service last winter to develop and promote an intensive vaccination campaign directed toward "babies and breadwinners." Using good epidemiologic principles we pointed the needle by every means at our disposal toward the groups at highest risk and with the lowest level of protection, the preschool child and the young male.

With this as background, what progress has been made against polio in the past year? In January the Surgeon General called a meeting of his Advisory Committee on Poliomyelitis Control to consider both the use of oral vaccine when it became available and to determine also what direction poliomyelitis control should take during the year. From this meeting came a series of recommendations. The most important recommendation may now seem anticlimactic, but I think it points up the problem that has existed and will continue to exist no matter what type of vaccine we use. This recommendation called for a national drive to intensify immunization programs. With less than half of the population completely vaccinated, the need for stepping up our immunization program was evident. Although millions more have been vaccinated this summer, that need still exists.

The second recommendation—one that will also be of continuing importance no matter what vaccines are available—was to give first priority to an immunization program directed at attaining complete and early coverage of the infant and preschool population. With the trend toward a return to infantile paralysis, this was regarded as a mandatory action for all people in health work. It still is.

A third recommendation urged that the Public Health Service establish a reserve supply of oral poliomyelitis vaccine to be used in epidemics. This recommendation was based upon presumptive evidence that type-specific oral polio vaccine will immunize a given population rapidly and, by interfering with the circulating wild polio viruses, can bring epidemics to a halt.

As a result of this recommendation the President in February, 1961 requested a special Congressional appropriation to buy a supply of the oral polio vaccine as soon as it was licensed. Congress approved the request, and a million dollars was made available to the Public Health Service for a two-year period.

On August 17 the Surgeon General of the Public Health Service announced the licensing of oral polio vaccine, Type I. This first vaccine was produced by Pfizer Laboratories, Inc. and was available in large quantities. The day that Type I vaccine was licensed the Public Health Service purchased 900,000 doses of the vaccine for the use of any community threatened with an epidemic of Type I polio and for closer study of its effects in an epidemic situation. Thirteen days later a three-county area including Syracuse, New York requested assistance because of an on-going epidemic of Type I polio. The Public Health Service immediately furnished the New York State Health Department with a supply of vaccine. In a matter of days it was administered to more than 400,000 people in the Syracuse area. A recent review of the Syracuse data by Dr. Henry Feldman of the University of Syracuse indicates that the vaccine was apparently effective in reducing the spread of polio.

Syracuse was the only community during this past summer that had a major epidemic of Type I poliomyelitis. There were, however, two outbreaks of Type III, one in Atlanta, Georgia, the other in Newberry, South Carolina. Since Type III vaccine was not commercially available, Dr. Albert Sabin, the developer of the strains that are now being used to produce oral vaccine, furnished vaccine from his own supplies. Three hundred and fifty thousand persons were vaccinated. The data are now being analyzed and evaluated.

On October 10 Type II oral vaccine was licensed and a supply was purchased to add to the Communicable Disease Center's stockpile. Type III has not, so far, been licensed, and there is at present no firm indication of when this will occur.

On November 21, at the request of the Government of Chile, the Federal Government and the National Foundation joined in sending equipment, Federal personnel, and 100,000 doses of Type I oral vaccine from the Service's reserve to help combat an epidemic in Santiago. Surgeon General Terry received the request at 9:00 p.m., and within 48 hours aid was marshaled and on its way to our South American neighbor. This is additional heartening evidence of the capacity of private agencies to work quickly and effectively with the Government to meet a health emergency.

With a substantial and dramatic drop in polio, a proved weapon against polio at our disposal in the Salk vaccine, and a complete series of a new type of vaccine on the way, what is the future in poliomyelitis control? What can medical societies, official health agencies and others do in the next several months to carry on the fight against polio?

The American Medical Association and the Public Health Service are both on record as favoring the community-wide use of oral polio vaccine when all three types become available. The aim is to immunize communities totally. With total immunization of a community we could look forward to the eradication of polio. We could envision not simply control of the disease but hopefully the actual eradication in this country of the virus which causes it.

The historic achievement of the Salk vaccine has brought us far along the way, and the advent of a complete oral vaccine offers the promise of completing the job. We do not, unfortunately, have a complete oral vaccine at the present time. We must take note, too, of an important fact—that almost half the cases of paralytic polio during this past year have been caused by Type III virus for which there is no licensed oral product. The answer is inescapable: We must place our reliance on Salk vaccine to give the protection that is needed against all three types of poliomyelitis.

With Types I and II of the oral vaccine available, some physicians, exercising their quite proper prerogative of choice, have already begun to use the new vaccine.

There is no reason why they should not do so in the routine health maintenance of individuals if at the same time Salk vaccine is given to protect against Type III.

I would add one other cautionary note. Although the Public Health Service is on record as favoring the mass use of the oral vaccine when all three types become available, there is no guarantee that ease of administration will necessarily produce optimum results. In one well publicized community-wide program in which the three types of oral vaccine were made available on an experimental basis the initial results appeared to be good. Large numbers of people responded and received the oral vaccine. But when a carefully conducted survey of the community was made following the vaccination campaign, it was found that a very great deal of the vaccine had gone into people who had previously received three injections of Salk vaccine. Moreover, the same hard core of preschool children and young adults in the lower socioeconomic areas had responded to oral vaccine only slightly better than they had to the Salk. This means that if we are truly to stamp out polio in this country we must continue to promote vaccinations.

This is the direction in which organized Health Departments will need to point their activities in the course of community-wide programs. It should be the continuing responsibility, I believe, of Public Health Departments to concentrate their efforts upon those segments of the population which they know from past experience, or from current surveys, have not been immunized by Salk vaccine.

A second word of caution about community-wide use of the oral vaccine is in order. We must not forget that once a community has been totally immunized, there are going to be additions to that community every year. Over 4,000,000 children are born each year in this country, and, if some method of assuring early immunization of these children is not devised, five years after mass campaigns with oral vaccine we will still find ourselves with a hard core of unimmunized persons and a potential source of new epidemics.

We have come a long, long way in the fight against polio. Yet if we are to achieve our goal—the eradication of the disease here and, eventually, throughout the world—we must continue our mutual efforts with energy and determination. I have every confidence that we shall.

Some Recent Advances in the Diagnosis of Schistosomiasis

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INFECTION WITH BLOOD FLUKES (schistosomiasis) is a disease primarily of Asia, Africa, and Latin America. The infection is acquired when an individual comes into contact with fresh water infested with the larval stage of the parasite (cercariae). Human schistosomiasis is produced by *Schistosoma japonicum*, *S. mansoni*, and *S. haematobium*. The cercariae penetrate the unbroken skin and migrate by way of the circulatory system to the lungs and finally to the hepatic and mesenteric veins, where they mature. Sexually mature worms copulate and produce eggs which penetrate into the intestinal lumen and are passed in the feces. The worms of *S. haematobium* migrate to the inferior mesenteric veins and vesical venules, and the eggs are discharged in the feces and urine. A large portion of the eggs of *S. mansoni* and *S. japonicum* are carried into the liver, where they accumulate and produce pseudotubercules. *S. haematobium* eggs are carried to the lungs instead of to the liver. In all forms of schistosomiasis, in addition to rectal and urinary lesions, fibrosis of the liver or the lungs, esophageal varices, ascites, hepatomegaly, and splenomegaly may develop. Eggs passed in the feces and urine hatch upon reaching fresh water, and the resulting ciliated miracidia swim about until they meet a specific snail, where they continue the life cycle. Upon finding the proper snail the miracidia penetrate and undergo development, producing thousands of cercariae.

The disease is of particular importance to the military since troops and their dependents are frequently stationed in endemic areas. This was emphasized recently by the occurrence of the disease in several dependent children living on a military post in Puerto Rico.[1] In addition, in these times when a "brushfire warfare" may start at any point on the globe, the tropical diseases in general, and schistosomiasis in particular, become of great importance. Military construction, such as building bridges, pontoons, etc., necessitate intimate contact with water In civilian clinical practice in the United States, schistosomiasis has recently become an important disease due in large part to the immigration of individuals from endemic areas, especially Puerto Rico. Furthermore, tourists and servicemen returning from endemic areas frequently represent a diagnostic problem. Diagnosis on clinical grounds alone is very difficult and often impossible because of vague and variable symptoms.

The unequivocal diagnosis of schistosomiasis can be made only upon finding schistosome eggs in the feces or urine of the patient or demonstrating the eggs by rectal biopsy. However, eggs are not easily found, especially in early, mild or chronic infections, and in those patients who have been therapeutically affected. Although the development of concentration techniques increased greatly the chances of recovering eggs in infected individuals, multiple examinations, even by the use of these techniques, fail frequently to detect a sizable percentage of infected individuals. Hernandez-Moralez and Maldonado[2] compared the acid-ether concentration technique performed on three stools from each patient with the results obtained by a rectal biopsy and showed that only 41 per cent of 50 positive rectal biopsies yielded eggs in stool examinations. Because of similar difficulties many investigators have attempted to develop intradermal and serologic tests for the laboratory diagnosis of schistosomiasis.

SKIN TESTS

The intradermal tests are relatively simple to perform, and since the reaction obtained is of the immediate type (15 to 20 minutes) the results can be read while the patient is still in the clinic. A wide variety of antigens from several stages of the life cycle of the schistosome have been employed. However, the sensitivity and specificity of the intradermal tests in *S. mansoni* infections are relatively low; although Horstman et al[3] showed that 92 per cent of the stool-positive soldiers elicited positive intradermal tests with antigen obtained from adult worms, Anderson and Naimark,[4] in a study of approximately 450 stool-positive patients of both sexes and a wide range of ages, found that at best only 75 per cent gave positive reactions. Jachowski and Anderson[5] showed that the percentage of reactivity obtained in such a group of patients was influenced by both the ages and sexes involved. Children and, in particular, females under the age of puberty give a low percentage of reactions. Pellegrino[6] and Kagan et al[7] have shown similar results with *S. mansoni* infections in South America. On the other hand, intradermal tests in *S. japonicum* infections give excellent results. Sadun et al[8] obtained a reaction in 99 per cent of 179 individuals with *S. japonicum* infections with the soluble fraction of the homologous worms.

Kagan[9] in a review article summarized some of the problems concerned with intradermal tests. A world-wide program for the standardization and evaluation of the intradermal tests is being most actively pursued under the direction and sponsorship of the World Health Organization.

SERUM TESTS

Serologic tests for schistosomiasis have been in existence for approximately 50 years since Yoshimoto[10] in 1910 first described a complement fixation procedure. In the ensuing half century, through the stimulus of the deficiencies of the other methods, great strides have taken place in the development of a variety of serologic procedures. The complement fixation is still the most widely used test. A large number of crude and purified antigens from the cercarial and adult stages of the parasite have been employed. Modern techniques are spectrophotometrically standardized with titrations of reagents based on the endpoint of 50 per cent hemolysis as compared to the 100 per cent endpoint used in the Kolmer technique. Use of the 50 per cent endpoint allows for a more precise standardization of reagents and complement in particular. However, the complement fixation test is not always easy to perform in small laboratories in endemic areas. Furthermore, a significant percentage of sera mailed from endemic areas to central laboratories may be anticomplementary, which renders them unsuitable for tests.

Other serologic procedures summarized in Kagan's report[9] were the precipitin tests (Taliaferro et al,[11] Oliver-Gonzalez and Pratt,[12] and Okabe et al[13]), the circumoval precipitation test (Oliver-Gonzalez[14]), the cercarienhuellen reaction (Vogel and Minning[15]), the cercarial agglutination test (Liu and Bang[16]), the miracidial immobilization test (Senterfit[17]), the hemagglutination test (Kagan[18]), and the slide flocculation test (Brandt and Finch[19]). Some of these tests must still be regarded as research tools because of limited evaluation for routine diagnosis and because they may require living organisms not readily available to most laboratories. On this basis the precipitin and hemagglutination tests should be considered as being still in the experimental stage. The cercarienhuellen reaction may also be placed in this category as Mayer and Pifano[20] were able to show positive tests in only 80 per cent of patients passing eggs of *S. mansoni.* The remainder of the tests presented (table 1) suffice as research tools and also give excellent results as routine diagnostic tests in comparison studies. Anderson and Naimark[4] evaluated the sensitivity of the complement fixation test with adult and cercarial antigens, a cercarial antigen slide flocculation test (Anderson[21]), the circumoval precipitation reaction, and the cercarial agglutination test on sera from approximately 500 individuals who were concurrently passing eggs of *S. mansoni.* The following results were obtained in the given test: (1) complement fixation test, adult antigen —98 per cent positive, (2) complement fixation test, cercarial antigen—97 per cent positive, (3) cercarial antigen slide flocculation test—98 per cent positive, (4) cercarial agglutination test—98 per cent positive, and (5) the circumoval precipitation test—88 per cent positive. Specificity of the serologic procedures is also excellent (Jachowski and Anderson[5]). Of a large number of other diseases and disorders tested, only two have been noted to give serious cross-reactivity. The first cross-reaction was noted in tests with extracts of the parasite as antigen (e.g., complement fixation tests). These crude extracts cross-reacted with sera from patients with syphilis. The problem was solved by Chaffee et al,[22] who extracted the parasite in anhydrous ether prior to extraction of the schistosome antigen in buffered saline. The other cross-reaction has been observed with antigen from any stage of the schistosome life cycle and sera from trichinosis patients. Fortunately, the geographic distribution of the two diseases is fairly distinct. In addition, the cross-reaction apparently does not occur in tests with Trichinella antigen and Schistosoma antisera, so that, if the need arises, performance of both types of tests will distinguish between the two infections.

TABLE I

Summary of Recent Tests Performed on Schistosomiasis Patients

TEST		No. of Tests	Results Obtained in Given Tests			Reference No.
Procedure	Antigen		Positive	Doubtful	Negative	
Intradermal	Adult	468	278	29	161	4
Intradermal	Cercariae	466	330	19	117	4
Intradermal	Egg	313	34	15	264	4
Serum:						
Complement fixation	Adult	540	507	23	10	4
Complement fixation	Cercariae	544	505	16	23	4
Circumoval ppt.	Egg	506	445		61	4
Slide flocculation	Cercariae	519	470	40	9	4
Agglutination	Cercariae	405	314	84	7	4
Fluorescent antibody	Cercariae	107	80	18	9	23
Dried blood:						
Fluorescent antibody	Cercariae	152	140	5	7	26

Recently Sadun et al[23] have developed an indirect fluorescent antibody test for the diagnosis of schistosomiasis, employing freshly killed cercariae as the antigen. Observations of approximately 230 human sera failed to reveal any significant differences in sensitivity or specificity between the fluorescent antibody test and the cercarial antigen slide flocculation test. One of the difficulties encountered in the development of the fluorescent antibody test was the need for freshly killed (10 per cent formalin) cercariae.

Storage of the formalin-killed cercariae for periods of longer than 24 hours rendered them unsuitable for tests. This limited the use of the fluorescent antibody test to laboratories maintaining the schistosome life cycle or to those in endemic areas where naturally infected snails were available. The difficulty was overcome by staining fresh cercariae with rhodamine bovine albumin prior to fixation in the formalin (Anderson et al[24]). Cercariae so preserved stained internally with the orange fluorescing rhodamine bovine albumin which blocked the nonspecific staining with fluorescein during the test procedure. Cercariae treated in this manner can be preserved for several months either in a refrigerated wet state, frozen, or lyophilized. In addition to preserving the cercariae for prolonged periods of time, the contrast of the two fluorescent stains made the test easier to interpret.

Dried Blood Test

The major objection to use of the serologic tests in some parts of the world has been the need for serum obtained by venipuncture. The venipuncture is unpopular in some countries, is difficult to perform on small children, and requires sterile equipment and procedures frequently unobtainable under field conditions. Under these same conditions separation of serum from the blood and preservation and shipment of serum specimens may be difficult. Recent developments (Anderson et al[25] and Sadun et al[26]) in the use of blood obtained by finger puncture and collected on high grade filter paper have overcome these objections. Although the principle of dried blood on filter paper is not new, a unique method for extraction of the dried blood was developed. The filter paper containing the blood to be extracted was rolled and inserted into the open end of a small flexible tube; a small volume of saline was added. After one hour the tube was inverted in the jaws of a carpenter's vise and fluid squeezed out of the open end of the tube into a standard test tube used in the fluorescent antibody test. The results obtained by this method were compared to those obtained with sera from the same individuals. Of 152 cases of schistosomiasis tested by the dried blood method, 95 per cent were positive. Specificity of the test was excellent in the limited number of individuals tested.

A combination of the finger puncture blood dried on filter paper with the fluorescent antibody test with preserved cercariae makes this the simplest and most practical serologic method for the diagnosis of schistosomiasis.

Summary

The difficulties encountered in diagnosing schistosomiasis by stool examination have led to the development of several types of serologic procedures. Among these the complement fixation and slide flocculation tests have been shown to give excellent results with serum samples. Recently developed methods employing blood obtained by finger puncture, dried on filter paper, and tested with the indirect fluorescent antibody technique show great promise as simple accurate procedures for the diagnosis of the disease.

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Infantile Systemic Histoplasmosis Successfully Treated with Amphotericin B

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SYSTEMIC HISTOPLASMOSIS was, until recent years, a devastating and rapidly fatal disease. This form of the disease occurs most frequently in infants and small children, and medical intervention was fruitless until the recent use of amphotericin B in mycotic diseases. This is a case report of systemic histoplasmosis in an infant who also had a familial elliptocytosis.

Histoplasmosis was an unknown disease until 1906 when Darling in the Panama Canal Zone, at an autopsy, found the intracellular ovoid organism which he believed to be a protozoan. Meleney identified the organism in a living human with the disease in 1931. The first successful culture of *Histoplasma capsulatum* and the proof of its identification as a fungus were not effected until 1933. The organism was first cultured from the soil in 1948 by Emmons.[1] Emmons has also isolated the organism from rodents, dogs, cats, horses, and many other animals. He confirmed the identification of the organism in the case to be presented here and studied a soil specimen which was considered as a possible source of infection.

The disease is probably acquired by the inhalation of the spores contained in dust,[2] but has been cultured from soil, air, and water.[1] The organism is found especially in soil around chicken houses and in pigeon lofts and also in damp places such as in caves, silos, storm cellars, and along river banks.[3]

Until the early 1940's histoplasmosis was considered a rare, uniformly fatal tropical disease of little interest in the United States. However, since that time and especially by the use of the histoplasmin skin test which came into use in 1944 the disease has been shown to have a widespread pulmonary form which usually runs a self-limiting course. Many cases of cavitary pulmonary disease which failed to respond to tuberculous therapy have been identified as affected with histoplasmosis. The disease is world-wide in distribution, and in the United States is seen most frequently in the river valleys in the southeastern and midwestern portions of the country.[3]

Until the discovery and use of amphotericin B, the acute disseminated infection seen in infants and young children was invariably fatal. Several papers in current literature reveal the remarkable success of amphotericin B in this disease.[4-10] Agents such as hydroxystilbamidine, atabrine, and ethyl vanillate, which were used during most of the 1950's, were generally ineffective and often toxic.[11]

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REPORT OF CASE

L. P. (D. C. General Hospital No. 115514), an eight-month-old colored girl baby, presented on the evening of October 28, 1960 with symptoms of an upper respiratory infection of two weeks' duration. She had been treated on October 15, 1960 with 300,000 units of benzathine penicillin intramuscularly because of mild fever and cough of one day's duration. However, symptoms continued, and the patient developed lethargy and dyspnea about two or three days prior to admission.

Erythroblastosis due to Rh incompatibility at birth required one exchange transfusion. There were no other significant disorders. There were no known hematologic disorders or other familial diseases, and there was no known exposure to infectious diseases. The family lived in a new Government project brick home. There were no pets or rodents in the home, and there was no poultry raised in the neighborhood. There was, however, a "lily pond" containing numerous frogs located about 50 feet behind the house. A friend with a chicken farm in Orange, Virginia, visited the family at least once monthly and had frequently played with the patient.

The patient was a normally developed colored infant in no acute distress. Respirations were slightly labored at 35 per minute, and she was pale and moderately lethargic. The temperature was 101.2°F and the heart rate 135 per minute.

Positive findings on examination included a slightly injected throat and small straws placed through the patient's pierced ear lobes bilaterally. Auscultation of the chest revealed rough breath sounds with inspiratory rhonchi and throaty sounds throughout. There were no wheezes, rales, dullness to percussion, or increased fremitus. The liver was palpable 2 to 3 cm. below the right costal margin and the spleen 5 to 6 cm. below the left costal margin in the midclavicular lines.

The white blood cell count on admission was 8,600 with 53 per cent neutrophils, 45 per cent lymphocytes, and 2 per cent monocytes. The sedimentation rate was 34 mm. per hour, the hematocrit 27 per cent, and the reticulocyte count 4.2 per cent. The sickle-cell preparation was negative. A peripheral smear of the blood revealed marked poikilocytosis and anisocytosis with an abundance of oval-shaped cells and prominent polychromatophilia. The red blood cells were normochromic. The bone marrow was moderately cellular with a distinct erythrocytic hyperplasia. No organisms were seen on the peripheral smear or in the bone marrow.

Urinalysis showed 20 to 25 white blood cells per high-power field and an occasional red blood cell. There were occasional white blood cell clumps and much amorphous material.

The chest roentgenogram failed to reveal any abnormality except for some bronchovascular "crowding" in the right cardiophrenic area.

Urine culture taken on the third day in the hospital grew out Aerobacter, Escherichia, and a species of Candida. A course of sulfisoxazole was started after the culture was taken, and the initial pyuria was not seen after that time.

The platelet count was 192,000 on the third hospital day, and a distinct thrombocytopenia with 92,000 platelets developed in the fourth week. This thrombocytopenia disappeared after one week of definite antifungal treatment and did not recur. There were no bleeding manifestations, but the tourniquet test was strongly positive.

The patient's blood study showed an elliptocytosis. Family study revealed the same findings in a brother, aged five years, and mild findings of elliptocytosis in a sister, aged twelve.

Pulmonary symptoms did not persist, and a subsequent chest roentgenogram five days after admission was also within normal limits.

Daily temperature elevations of 101° to 104°F continued. Repeated sickle-cell preparation, hemoglobin electroporesis, L. E. preparation, VDRL, heterophile and febrile agglutinins, and numerous cultures of the blood, throat, stools, and cerebrospinal fluid were not helpful. A PPD skin test was negative, but the histoplasmin skin test gave a positive reaction of 1.2 cm. induration and erythema on November 4, 1960. A complement fixation test for histoplasmosis was started on this date, and a second histoplasmin skin test was placed on the other arm. The second skin test was also positive and gave a 1.5 cm. reaction. On the nineteenth day after admission the complement fixation tests for histoplasmosis were reported positive. This finding, together with two definitely positive skin tests, the clinical picture of spiking fever not responding to penicillin, sulfisoxazole and chloramphenicol, the great hepatosplenomegaly, pneumonitis, anemia, normal white blood cell count, and the deteriorating course made the diagnosis of histoplasmosis clear. It was deemed mandatory to start treatment with amphotericin B immediately before cultural confirmation because of the grave prognosis of this type of the disease in infants. A bone marrow aspirate was sent for culture on the day before definitive treatment was initiated. Thirteen days later mycelian forms were reported growing in the culture, and on the nineteenth day the characteristic organisms, *Histoplasma capsulatum*, were identified.

Intravenous amphotericin B was obtained, and intravenous therapy was instituted for 37 consecutive days. The initial dose of 0.25 mg. per Kg. was progressively in-

TABLE 1

Amphotericin B

Date	Treatment and Daily Course							Weight
	Dosage in mg. Amphotericin B	Maximum Temp. F	Liver and Spleen		HCT %	Reticulocytes %	BUN	
11-17	(0.25 mg./Kg.) 1.75	104.0	5 cm.	7 cm.	22	6.9	10.5	15 lbs., 4 oz.
11-18	2.25	101.4	(70 c.c. packed rbc's transfused)					
11-19	2.75	102.2			29	4.3		
11-20	3.25	100.6			32			15 lbs., 10 oz.
11-21	(0.50 mg./Kg.) 3.75	103.4	5 cm.	7 cm.				
11-22	3.75	104.0				3.1	11.0	
11-23	4.25	102.8	4.5 cm.	6 cm.				
11-24	4.25	100.2						
11-25	4.75	99.2			26	3.8	8.0	16 lbs., 1 oz.
11-26	5.25	100.8	4 cm.	5.5 cm.				15 lbs., 15 oz.
11-27	5.25	104.0	(rapid infusion)					
11-28	5.75	98.6						
11-29	5.75	100.0			25	4.6	6.5	
11-30	6.25							16 lbs., 9 oz.
12-1	6.25	98.6						
12-2	6.75	98.0	3.5 cm.	3.5 cm.	27.5	1.5	8.0	
12-3	6.75	98.0						
12-4	7.25							16 lbs., 8 oz.
12-5	7.25	98.0	3 cm.	3 cm.				
12-6	7.50	98.0	2.5 cm.	2 cm.				16 lbs., 15 oz.
12-7	7.50	100.0	2 cm.	2 cm.				
12-8	7.50	100.0	2.5 cm.	1 cm.	30			
12-9	(1.0 mg./Kg.) 8.0	99.0	2.5 cm.	1 cm.				
12-10	8.0	98.6	2.5 cm.	1 cm.				17 lbs., 14 oz.
12-11	8.0	98.6						
12-12	8.0	99.0			35.5	1.3	11.0	
12-13	8.5	99.0						
12-14	8.5	99.0						17 lbs., 14 oz.
12-15	9.0	99.0			34	1.4		
12-16	9.0	102.6						
12-17	9.0	98.6	2 cm.	1 cm.			10.0	
12-18	(1.25 mg./Kg.) 10.0	99.6						
12-19	10.0	98.6						
12-20	10.0	98.6	2 cm.	1 cm.			18.0	17 lbs., 15 oz.
12-21	10.0	98.6						
12-22	(1.37 mg./Kg.) 11.0	99.0						
12-23	11.0	99.8	2 cm.	1 cm.	31.5		13.5	
12-24	*Amphotericin B discontinued*							

creased until the usual effective lower limits of therapeutic level, 0.50 mg. per Kg., were reached on the fifth day. This was gradually increased to the upper limits of therapeutic level, 1.0 mg. per Kg., on the twenty-third day. Because the patient tolerated the drug so well the dose was gradually increased to 1.25 mg. per Kg. by the thirty-second day, and 1.37 mg. per Kg. was given on the last two days of therapy. The drug was administered daily intravenously over a six-hour period in 125 ml. of 5 per cent dextrose in water. One grain of aspirin was given at the onset of treatment daily, and rectal temperatures were taken every two hours during infusion and every four hours during the balance of the day. Ten mg. of Benadryl® was given at the onset of infusion and repeated once every four hours throughout the course of therapy. The blood urea nitrogen was determined twice weekly and was always within the limits of normal.

Table 1 demonstrates the therapeutic course and response to amphotericin B. The patient became relatively afebrile after one week of treatment. Maximal daily temperatures exceeded 100°F on only two occasions after this. A temperature elevation of 104°F on the eleventh day accompanied an inadvertent rapid infusion of the amphotericin B, and one of 102.6° on the thirtieth day was accompanied by symptoms of a mild upper respiratory infection.

The liver and spleen progressively decreased in size. The liver was palpable 5 cm. below the costal margin at the onset of treatment, and only 2 cm. after one month. The spleen decreased from 7 cm. to 1 cm. in the first month. Follow-up reveals the spleen and liver to be completely nonpalpable three months after treatment.

The hematocrit was 22 per cent at the onset of treatment with a reticulocyte count of 6.9 per cent, indicating a hemolytic process with active erythropoiesis. Seventy c.c. of packed red blood cells was given the second day, raising the hematocrit to 29 per cent. However, the hematocrit again dropped to 25 per cent during the second week but rose to more nearly normal levels soon after this accompanying good clinical improvement. The reticulocyte count dropped normally as the hematocrit rose. The blood urea nitrogen was always within normal limits and ranged between 6.5 to 18 mg. during the course of amphotericin B therapy.

The patient weighed 16 lbs., 10 oz. when initially seen in the clinic on October 15, 1960 and had lost 1 lb., 6 oz. in the next month before treatment was started. Weight gain was progressive during the therapy, and the patient weighed 17 lbs., 15 oz. at the termination of treatment. Follow-up reveals the patient to be well over 26 lbs. five months after therapy.

Table 2 demonstrates the serologic response to therapy. The initial complement fixation test showed a titer of 1:128 for the whole yeast phase of histoplasma and a histoplasmin titer of 1:64. Yeast phase of blastomycosis reacted with a titer of 1:8. This mild cross-reaction is not uncommonly seen among fungal antigens.[12] However, there were no cross-reactions on subsequent tests. The yeast phase titer decreased from the initial high of 1:128 to 1:16 after ten weeks. There was a subsequent unexplained rise to 1:64 a week after this, but the titer again declined to 1:16 in one month. The histoplasmin titer increased quickly to a high of 1:512 three weeks after the initial titer of 1:64 but has since progressively decreased to 1:16 as indicated by the chart.

COMMENT

When the complement fixation tests were first reported positive it was suggested that the causative antibodies may have been stimulated by the antigens of the skin testing. To clarify this point, histoplasmin skin tests were done on nine infants, aged three months to two years, and complement fixation tests were done on three of these three days after the skin tests. The skin tests were read in 48 hours and were negative in all, but three showed a slight induration of 2 to 3 mm. Complement fixation tests were performed on the three who showed the slight reaction. All three complement fixation tests were negative. Histoplasmin skin tests were done also in the mother and five siblings aged three to 12 years. These were all negative, but two of the children showed a slight induration, and complement fixation tests were done on these two. These were also reported as negative. These studies suggest that the histoplasmin skin test antigen will not stimulate detectable amounts of circulating antibodies.

TABLE 2

*Complement Fixation Tests**

DATE	HISTOPLASMOSIS		BLASTOMYCOSIS	COCCIDIOMYCOSIS	Colloid Agglutinin with Histoplasma
	Whole yeast phase	Histoplasmin	Yeast phase	Coccidiodin	
11–4–60	1:128	1:64	1:8	Neg.	Neg.
11–27	1:64	1:512	Neg.	Neg.	Neg.
12–5	1:64	1:256	Neg.	Neg.	Neg.
12–20	1:64	1:256	Neg.	Neg.	Neg.
1–8–61	1:32	1:128	Neg.	Neg.	Neg.
1–16	1:32	1:128	Neg.	Neg.	Neg.
1–26	1:32	1:128	Neg.	Neg.	Neg.
1–31	1:32	1:128	Neg.	Neg.	Neg.
2–6	1:16	1:64	Neg.	Neg.	Neg.
2–13	1:64	1:64	Neg.	Neg.	Neg.
2–20	1:32	1:64	Neg.	Neg.	Neg.
2–27	1:32	1:64	Neg.	Neg.	Neg.
3–13	1:16	1:32	Neg.	Neg.	Neg.
4–4	1:16	1:16	Neg.	Neg.	Neg.

*The serology work was performed by Miss Charlotte Campbell, Mycology Section, Department of Bacteriology, Walter Reed Army Institute of Research, Washington, D. C.

Since the infant was too young to walk or crawl and had never been out of her neighborhood environment, a mode of transmission had to be sought in her contacts. It was suggested that the straws in the patient's pierced ear lobes may have been the source of infection, but culture from these and from other straws taken from the same broom failed to produce any fungi. Samples of moist dirt and chicken droppings were obtained from around the chicken houses of the friend in Orange, Virginia who frequently visited the patient, and these were submitted to Emmons at the National Institutes of Health for fungal culture and mice inoculation. These were also negative. No further tests were practical, and the source of infection was not discovered. It is our opinion that the chicken farm in Orange, Virginia was the most likely source of infection and that the soil specimens submitted were probably improperly collected since the bacteriologists of Emmons' group were not able to go to this remote location to personally supervise the collection.

It was suggested that possibly the organism was transmitted through the infused blood of the exchange transfusion received on the third day of life. This seems highly unlikely since the onset was rather distinct in this eight-month-old patient, indicating quite a prolonged incubation period. Although the incubation period for histoplasmosis is unknown usually, it is reported to be five to 18 days in epidemics by the Infectious Disease Report of the American Academy of Pediatrics.[13] Moreover, there are a number of cases of infantile systemic histoplasmosis in recent literature of infants aged three to five months.[4, 14, 15]

Culture of the organism was by a simple direct method. The bone-marrow aspirate was placed on a blood agar plate. Growth was then transferred to another blood agar plate which contained penicillin and streptomycin and on Sabouraud's media which contained penicillin, streptomycin and 100 mg. per liter of actidione, which inhibited overgrowth of bacteria. Both media grew out the characteristic fungi.

Amphotericin B is usually given intravenously because of its poor absorption from the gastrointestinal tract. Drug toxicity often presents a deterrent to therapy. Side-effects of amphotericin B include anorexia headaches, and shaking chills with fever, seen especially during the first few days of therapy. Prolonged therapy sometimes produces a marked azotemia. Pain at the site of infusion and thrombophlebitis may be encountered. Occasionally anemia, abdominal cramps, diarrhea, and a maculopapular rash may occur.[16] All the side-effects are reversible with the discontinuance of the drug. However, no untoward effects were seen in this case and the patient thrived well, becoming considerably more alert and active as the therapy exerted its effect.

The elliptocytosis remained apparent after therapy. Family study revealed the same findings in a brother, aged five years, and mild findings of elliptocytosis in a sister, aged 12 years. The diagnosis of familial congenital elliptocytosis is strongly suggested by these findings. The patient and family have undergone a thorough hematologic study, and the findings are being written up for publication.[17] The elliptocytosis probably was precipitated into a hemolytic process during the acute phase of the disease. There was an active reticulocytosis, indicating that the anemia was probably not due to suppression of the bone marrow by the invading histoplasma. Only speculation can be made retrospectively as to the possible part played by the elliptocytosis during the hemolytic disease neonatally. The diagnosis of classical Rh incompatibility is questioned because the direct and indirect Coombs' tests were negative as well as the albumin screening antibody test. Jaundice was not discovered until the infant was almost 48 hours of age, when the total bilirubin level was 16.0 mg. with 15.3 mg. per 100 ml. of blood in the indirect fraction, and the pre-transfusion hemoglobin was 16 mg. However, the mother's blood type was O with Rh factors dce/dce, and the patient's type was O with Rh factors Dce/dce. The exchange transfusion was done three days after birth, and the pre-transfusion bilirubin level was a total of 30.2 mg. with 29.4 mg. per 100 ml. of blood of the indirect fraction. One sibling, a five-year-old brother, had been jaundiced at birth at another hospital where the records were insufficient to reveal its exact nature. He did not require exchange transfusion. No other relationship could be established between the histoplasmosis and the elliptocytosis, and there is no indication of an increased susceptibility to histoplasmosis in elliptocytosis in that two of the siblings in the same environment did not contract the infection. The anemia that was present when the patient was first seen was corrected by transfusion. No further specific treatment for the anemia was required once the histoplasmosis was brought under control. A species of Candida cultured twice from the urine early after admission was not found after amphotericin B treatment was instituted. This drug is effective against Candida and apparently eradicated this incidental infection easily.

Summary

A case of acute systemic infantile histoplasmosis has been presented and its remarkable response to amphotericin B demonstrated. The patient incidentally has systemic candidiasis and a familial elliptocytosis. Tables have been presented to demonstrate the course of therapy and the serologic progression.

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The Lesser Vein of Galen

A Diagnostic Myth

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SINCE THE REPORT of Wolf, Newman and Schlesinger[1] in 1955, considerable attention has been directed to the locus of various points along the lesser vein of Galen as an adjunct in intracranial tumor localization. It has been our experience that the measurements of these points and the "venous angle" are frequently of no aid in locating a tumor and are often misleading.

The material for this study was obtained from the Intracranial Tumor File of the Department of Neurosurgery, Walter Reed General Hospital, Washington, D. C. The file was searched alphabetically until 100 histologically-verified tumors were obtained and in which technically satisfactory venogram studies were available for accurate measurement. The tumors were categorized with regard to location and histologic type (table 1) in descending order of frequency. In all instances of unilateral tumors the ipsilateral venogram only was measured. For midline and parasellar tumors the technically best venogram was used. The template was obtained from the authors of the article previously referred to and was used according to their direction. Landmarks and labeling were kept the same. "AE" refers to the lowest or most anterior point of the anterior loop or the junction of the terminal vein with the internal cerebral vein, the interventricular foramen. "MP" refers to the midpoint of the descending half of the internal cerebral vein. "LP" refers to the lowest point of the posterior or sphenoid loop of the vein of Galen.

TABLE 1

Location and Types of Tumors

Frontal lobe: 25	
Glioblastoma	10
Astrocytoma	7
Meningioma	4
Metastatic carcinoma	2
Meningeal sarcoma	1
Dermoid	1
Parasellar: 18	
Pituitary adenoma	14
Tubercular sella meningioma	3
Craniopharyngioma	1
Temporal lobe: 11	
Astrocytoma	8
Glioblastoma	2
Dermoid	1
Parietal: 8	
Astrocytoma	3
Metastatic	3
Glioblastoma	1
Meningioma	1
Parieto-occipital: 8	
Metastatic	4
Oligodendroglioma	2
Glioblastoma	1
Astrocytoma	1
Frontoparietal: 6	
Glioblastoma	2
Metastatic	2
Astrocytoma	1
Meningioma	1
Occipital lobe: 5	
Metastatic	4
Glioblastoma	1
Sphenoid ridge: 4	
Meningioma	4
MISCELLANEOUS (15)	
Temporo-occipital: 3	
Glioblastoma	1
Astrocytoma	1
Metastatic	1

Frontotemporal: 3	2
Glioblastoma	
Astrocytoma	1
Temporoparietal: 2	
Astrocytoma	1
Glioblastoma	1
Tentorium: 2	
Meningioma	2
Fourth ventricle: 1	
Papilloma	1
Lateral ventricle: 1	
Ependymoma	1
Thalamus: 1	
Oligodendroglioma	1
Orbital roof: 1	
Meningioma	1
Clivus: 1	
Chordoma	1

ANALYSIS

The majority of the tumors studied (25) were frontal in location. Of these, 20 showed deviation of the AE. All except one showed properly localized displacement posteriorly and/or downward or upward according to the location of the tumor. In 13 of these tumors the MP was accurately displaced in 11, and erroneously in two. The LP was displaced in only eight instances. Three of these were accurately displaced and five erroneously. Frontal tumors had the most consistent influence upon deviation of the lesser vein of Galen at its AE and in this series demonstrated an accuracy of 76 per cent. The MP and LP are hardly worthy of consideration, and in all cases arteriographic phases of the angiograms clearly localized the lesions.

Eighteen parasellar tumors were studied. There were 14 pituitary adenomas, three tuberculum sellae meningiomas, and one craniopharyngioma. The only alteration of the deep cerebral vein produced by this latter lesion was an apparent forward displacement (toward the lesion) of the LP with normal locations recorded for AE and MP. Of the three tuberculum sellae lesions, one moved the AE posteriorly in an expected fashion and another inferiorly in an unexpected manner. All other measurements in this group were within the criteria for normal. There were some interesting findings in the 14 pituitary adenomas studied. Only two altered the MP, both away from the tumor, and two altered the LP, one toward the lesion and one away from it. Conversely, the AE was altered in all but four of these tumors. In five the deviation was away from the tumor, while in four it was toward the tumor. In one case the AE was pushed back, away from the tumor, but it was also pushed down toward the tumor.

Eleven temporal lobe lesions, all of which were malignant except one (dermoid) showed some displacement of one or more points of the internal cerebral vein. In two the LP was displaced forward toward the tumor, thus hindering proper localization. Incidentally, in these instances there was no alteration of the AE and MP. The MP was only altered in four of the 11 tumors and these were always displaced away from the tumor, therefore being of diagnostic aid 36.4 per cent of the time. The AE was displaced in five of the 11 tumors and this displacement was always consistent with tumor localization, i.e., upward and backward or forward, depending on the location of the greatest mass in the temporal fossa.

In this series lesions which were confined to the parietal lobe consisted of five infiltrating gliomata and three metastatic lesions. The metastatic lesions failed to effect any displacement on the internal cerebral veins, probably because of their more superficial location at or just beneath the cerebral cortex. The gliomata in this region, however, all showed accurate displacement of the AE downward and forward away from the tumor. The MP was displaced in four of these five tumors and the LP in three. When displaced, the shift of these points indicated proper localization; i.e., they were moved away from the tumor.

Parieto-occipital lesions behave similarly to those confined to the parietal lobes. Three of the four gliomata of this group showed alterations of one or more points of the internal cerebral vein. In no case was the direction of shift misleading. Four metastatic lesions were encountered. Two failed to shift the internal cerebral vein; one shifted the AE downward, and the other displaced the entire vein downward.

Of four gliomas, one meningioma, and one metastatic lesion in the frontoparietal area, all but the metastatic lesion accurately shifted the AE away from the tumor, thus aiding in localization. Alterations of the MP and LP, however, occurred eight out of a possible 12 times. In only two instances was the shift away from the tumor. In six it was toward the tumor, indicating displacement from demonstrated normal brain.

Five occipital lobe lesions consisted of four metastatic carcinomas and one glioblastoma. The glioblastoma, as well as one of the metastatic lesions, displaced the measured parts of the internal cerebral vein accurately. One metastatic lesion displaced the LP backward toward the tumor and another similarly, inaccurately, displaced the AE posteriorly toward the tumor. The last effected no change on the lesser vein of Galen.

Four sphenoid ridge meningiomas were encountered. One displaced the AE posteriorly, but the MP and LP were drawn toward the lesion. The other three accurately displaced the AE and MP but produced no change in the LP.

The miscellaneous tumors (table 1) presented a "hodgepodge" for interpretation. Three temporo-occipital lesions all altered the location of some portion of the internal cerebral vein incorrectly and at no point correctly. Two frontotemporal gliomas shifted five out of a possible six points away from the tumor, but one "drew" the LP toward it. Another tumor in this locale had no influence on the location of the internal cerebral vein. Two temporoparietal gliomas had little influence on the location of the vein, and such influence as was present was incorrect. Two tentorial meningiomas and a fourth ventricle papilloma had no appreciable influence. The AE was displaced upward and away from the lesion by one of the meningiomas. A lateral ventricle ependymoma did shift the AE and LP away from it without affecting the MP. One thalamic oligodendroglioma, in which accuracy would be most expected, was found to have altered the internal cerebral vein in such a way that it was displaced toward the underlying thalamus as if it were compressed from a lesion above. One meningioma of the orbital roof displaced the AE upward, but at surgery gross space-occupying tumor was not seen and it was only in the microscopic sections of the orbital roof that tumor was evident. One chordoma of the clivus displaced the MP and LP upward, as would be expected, but did not affect the supposedly most mobile AE.

Our experience, therefore, reveals that the location of the AE (junction of terminal vein with the internal cerebral vein) was deviated in approximately 75 per cent of all tumors. Overall localizing validity, in turn, was from 60 per cent to 75 per cent. Less than 50 per cent accuracy was recorded on parasellar tumors, and the remainder led us to look elsewhere for a mass lesion. In only a few instances was the LP altered. This point, being the lowest point on the sphenoid loop of the lesser vein, would not be expected to be altered significantly because of its relatively fixed point anatomically. The MP (midpoint of the descending portion of the lesser vein) seemed to vary as the AE, but to a lesser degree and a lesser number of times.

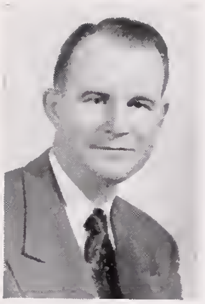
Significantly, all of these tumors were clearly localized by the arterial phase of the angiogram. Unfortunately, third ventricular and pineal tumors usually present themselves clinically with obstructive hydrocephalus, and ventriculography, rather than angiography, is indicated. This group would be expected to produce anatomic alteration of the internal cerebral vein. Our one case of thalamic oligodendroglioma was a veritable paradox. In this case deviation of all points of measurement toward the lesion was produced.

Lin et al[2] in their study of deep vein angiography observed that, although appropriate deviation was shown in some cases, it was not

(*Continued on page 248*)

PRESIDENT'S PAGE

WHAT'S HAPPENING ON M STREET



M Street in the vicinity of the Medical Society buildings is in the process of complete transformation. Members who recall the surroundings ten years ago are impressed with the fact that only the Medical Society property seems pretty much as it was.

The building fever in the area began about four to five years ago and has accelerated ever since. For example, the pretentious National Geographic Society building is now going up on the corner of 17th and M Streets, Northwest. It promises to be one of the most beautiful in the city. On DeSales Street, immediately across from the Mayflower Hotel and back of the Society's headquarters, a new office building is being erected. The Coal Building, which is also nearby, is a modern and beautiful edifice.

Most of the older buildings have been torn down and have given way to parking lots, which will soon be occupied by new office buildings. Before long the Society's headquarters will be surrounded by much taller buildings; in other words, it will find itself in a situation comparable to the Little Church Around the Corner in New York.

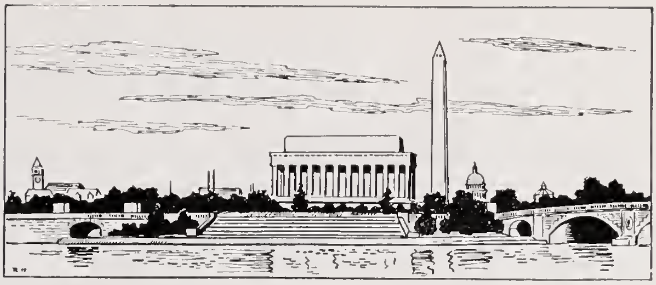
Of course, the Society's Executive Board and House Committee have been fully cognizant of these developments. In fact, the Board has had under consideration the removal of the Society's headquarters to another part of the City. Such a move would, of course, have to be approved by the Society's membership. What prompted the Committee and the Board to look into this matter was the parking situation, which has grown increasingly worse. Then, too, the auditorium, which is not used by the Society as much as in the past, is expensive to maintain and has therefore become more or less a luxury.

On the other hand, the fact that the original building is still in excellent shape and the restored structure next door has a life expectancy of at least 15 to 20 years had to be taken into consideration. It will be recalled that the building at 1710 M Street was restored at considerable cost a few years ago. Office space available in this building will meet the Society's needs for some years to come.

Both the Committee and the Board came to the same conclusion—the Society's headquarters should remain where it now is. In the meantime, the property is increasing in value. Incidentally, the Society's property is free of all encumbrance.

There is still another side to this whole matter and that is that a surprising number of physicians, even among the younger group, have a sentimental attachment for the buildings. That is something which must be taken into consideration.

J Spencer Dryden



EDITORIALS

THE CHARLES STANLEY WHITE AWARDS FOR EXCELLENCE IN MEDICAL WRITING

On January 30, 1962 Dr. Charles Stanley White suggested that in order to stimulate medical writing among members of the Medical Society of the District of Columbia who have not been in practice more than ten years it might be well to offer a monetary award for the best surgical papers submitted in any one year to the Medical Annals of the District of Columbia. He generously offered to donate $300 for this purpose. It has been decided to have two awards, the first with an honorarium of $200 and the second with an honorarium of $100. The quality of medical writing, as well as the content of the manuscript, will be given high rating in the selection of the papers considered best by a committee of three impartial surgeons. It is hoped that these awards will stimulate members of the Society to submit papers in competition to the Annals. The awardees will be announced in the Annals in early 1963.

Manuscripts must be typed, double spaced, and submitted to the Editor of the Medical Annals of the District of Columbia, 1718 M Street, N.W., Washington 6, D.C., not later than December 1, 1962.

Social Security and the Private Practice of Medicine

Will the Kennedy plan for medical care of the elderly through Social Security interfere with the private practice of medicine? The Administration says "No." But take the provision that the plan will pay the cost of hospital outpatient clinic diagnostic services in excess of $20.00. This feature will definitely augment the practice of medicine by hospitals, which has been going on for some time already. It will undoubtedly mean that much of the diagnostic services for the elderly will be done in hospitals and not by private physicians.

True, the hospitals will profit, but at the expense of private practitioners, clinical laboratories, roentgenologists, private clinics, etc. There is no provision for the payment of private physicians in the plan or laboratory or X-ray work done outside of hospitals.

Understandably, many patients will go for medical services where they do not have to pay for them. As to the practice of medicine by hospitals, even now hospitals are charging patients $6.00 for an office visit to their outpatient department, which is as much or more than a private physician charges, whose overhead is 40 per cent on the average. The practice of hospitals exploiting the services of physicians must cease, else there will eventually be no private practice of medicine. And eventually intelligent young men and women will not be attracted to the profession of medicine, which is even now in need of new young talent.

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

Cancer Control—Progress and Hope

April is Cancer Control Month—a time when the American Cancer Society places renewed emphasis on the control of this disease—the problems, the accomplishments and the hope for the future.

The constructive programs that have developed steadily since the District of Columbia Division of the American Cancer Society was founded in 1946 are due in no small part to the initial interest of the Medical Society here and to the continued enthusiastic support given by physicians in Washington.

It seems appropriate at this time for us to reexamine what is being done and to look at ways in which we as physicians can join with the American Cancer Society to assure steady progress in the future.

There is no doubt that diagnostic and treatment facilities for cancer in this community are among the best in the Nation. Each year your American Cancer Society contributes substantial sums of money to hospitals and institutions in Washington to aid in the diagnosis, treatment and care of cancer. Last year, for example, a total of $92,819.07 was granted to various hospital tumor clinics, to the Visiting Nurse Association, to the Homemaker Service, and to other institutions.

But service to the cancer patient and his family cannot end there. As we well know, this disease brings with it many problems that cannot be solved by medical care alone. Cancer is frightening to most people and emotional reaction may be severe for some. For others, cancer creates a tremendous financial burden. If a mother of a family is affected, there may be problems of child care. Others may need assistance with transportation.

Whatever the problem, the American Cancer Society is at your service. A counselor is available to give warm friendly guidance and actual assistance, financial or otherwise, to the patient or his family.

If every physician who treats cancer patients would acquaint himself with the many services available, and refer his patients or their families to the Cancer Society for help, we could do much more. For the fact remains that we can give service only if people know that it is available and will call upon us.

Somewhat less dramatic, but equally important and equally dependent on the support and coöperation of physicians, is the educational program of the Society. We know lives are being saved right now because more and more people are being alerted to the tremendous value of early detection and prompt treatment for cancer.

We are able to carry this message to hundreds of groups in Government, in business, in clubs and organizations because of the devoted volunteer assistance given by nearly 100 volunteer physician speakers.

At the same time we are helping physicians keep abreast of the latest developments in cancer control through professional programs and literature. We are reaching young medical students through the St. George Society and we are offering many direct services to the physician so that the quality of detection, care and treatment will continue at a high level.

Again, I must emphasize that if we as physicians would take advantage of these educational services by urging our patients to learn more about cancer control—and by learning more about it ourselves, we could save even more lives.

While services are helping to ease burdens, and education is quietly but effectively saving lives, the Cancer Society is participating in one other phase of cancer control which is basic to the whole—Research. For it is through research that we hope eventually to conquer this disease. Some 1,300 key investigators in this country, including some here in Washington, are receiving support from the Cancer Society for research in many fields—chemotherapy, virology, immunology, epidemiology, radiation, surgery, and in biology and chemistry of cell growth.

These three programs—research, education and service—go on day after day, throughout the year.

Once each year, in April, the American Cancer Society comes to you and asks for your financial support to continue and expand this vital work.

It is my hope that all of us who well know what an important role the American Cancer Society plays in cancer control in our community will be especially generous in our response to the 1962 Cancer Crusade.

And I hope too that each of us will make those dollars work more effectively throughout the year by more fully utilizing the programs and services which your contribution makes possible.

WILLIAM P. HERBST, JR., M.D.
President, District of Columbia Division,
Inc., American Cancer Society

Risks in Blood Transfusion

The commonplace seems of little value until it suddenly becomes unavailable. An electrical power failure renders a large metropolis helpless. The contamination of a municipal water supply by a spring flood makes the populace suddenly aware of the luxury of potable water. And seasonal shortages in the supply of blood for transfusion should give us a keener appreciation of a commodity that has perhaps become too commonplace.

Blood is indeed a great gift and should not be wasted. The most important indications for its use are the restoration of blood volume and the improvement of the oxygen-carrying capacity of the blood when it is seriously lowered. Our recent gains in maternal morbidity and mortality can be ascribed in part to readily available supplies of stored blood. Survival of battlefield casualties in the face of improved methods of destruction reached a new high in Korea with the help of air transportation of blood. Therapy of civilian injuries has followed a similar trend. Open-heart and other major surgical procedures would not be possible without large supplies of blood. In order to maintain adequate supplies for these critical uses blood transfusions must be used wisely.

However, we must not forget that blood transfusions involve a significant risk, even with the most careful technique and supervision. Transmission of the virus of hepatitis is a serious danger. The minimal incidence of viral hepatitis is 0.26 to 1 per cent with whole blood and 1 to 20 per cent with pooled plasma.[1] What is even less appreciated is the fact that absolute compatibility of blood is seldom met with. The possibility of sensitization by subgroup factors is always with us. However, the largest source of error in transfusion is, and will continue to be, the human element. The 1956 figures of the Board of Directors of the Joint Blood Council list some 4,585,000 transfusions as being administered in that year. When one multiplies this figure by the number of administrative and technical procedures which ensue between the request for blood and its administration, the possibility for error is a real one. This should give us pause for thought each time a transfusion is ordered. It should remind us that the cosmetic transfusion for the terminal carcinoma patient can really accomplish nothing and may actually shorten survival. It should remind us that somewhere in each blood bank in the course of a year, among the number of innocuously labeled flasks there are a statistically undetermined number of containers that could be labeled with a skull and crossbones as appropriately as any of our most lethal poisons. In every case one should decide whether the advantages of a given transfusion outweigh the very considerable risks.

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[1] NEEFE, J. R., AND OTHERS: Carriers of hepatitis virus in blood and viral hepatitis in whole blood recipients. J. A. M. A., 1954, **154**, 1066; Amer. J. Clin. Path., 1955, **25**, 158.

The Joint Blood Council recently has made suggestions for elevating blood transfusion practices in hospitals, which have been endorsed by the Joint Commission on Accreditation of Hospitals. In essence it recommends a policy for policing this important area, for recommendations concerning indications for transfusion, and for continuing education of the staff. Following the suggestions of the Council should help to improve blood transfusion practices.

Each of us who treats patients must respect blood. Careful consideration of the patient and his problem will insure that blood will be used only when it is needed. Under these circumstances the risk of blood transfusion is well taken.

1961 COMMITTEE ON BLOOD

Preservation of the Patient's Confidence

All physicians are responsible for preserving the privacy of information concerning patients' health, but it is becoming more and more difficult to do so. In struggling through the forest of rapidly multiplying insurance forms we may easily overlook "border-line" and "minor" invasions of that privacy. This is a time when we need to sharpen our watch for such improprieties and avoid them, lest our acceptance of them permit more serious infringements.

We often receive requests from departments of the Federal Government regarding the retirement proceedings, etc., of a patient. We are asked to give a complete medical report, but no release for that information is enclosed. When we request such a release, we meet indignation on the part of the governmental officer whom we contact. These functionaries evidently feel they have a right to such information with or without the patient's release. At times our attention is directed to a phrase in the request which indicates that there is an authorization for the information (somewhere). We cannot, of course, give this information without having the patient's signed authorization; and our steadfast refusal to do so must result in a change of policy by the governmental departments concerned.

As another example, some insurance companies are sending forms requesting information regarding one member of the family with an authorization signed by another. Surprisingly, this type of request comes from some of the larger companies, evidently having been accepted already by many of us. Such a release is not strictly proper. A husband cannot, for instance, properly authorize release of medical information concerning his wife. When such a request arrives, we should return it and ask for a properly executed release signed by the patient himself.

Again, in relation to many health insurance claim forms, a fourth party has included himself in the growing group of spectators into our patients' lives. The patient and his doctor have reluctantly admitted the insurance carrier to the consultation room, and now the employer is barging in. Many of the forms direct the physician to complete his section after the patient has signed his part, then to return the form to the employer. It is presumed that the employer will forward the completed papers to the insurance carrier. Placing such confidential information at the disposal of an employer suggests that George Orwell's Big Brother is closer than 1984. We should avoid this routing of the information by filling in our section of the form only after it has been properly completed by the patient and his employer. We can then send the form directly to the insurance carrier.

In these three situations we can act to protect the privacy of our patients, and, in doing so, hold their confidence. The preservation of the patient's confidence is one of our objectives as we try to improve the physician-patient relationship; the maintenance of the privacy of his confidential information is our duty, regardless of contrary social pressures.

ROBERT R. MONTGOMERY, M.D.

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

IN & OUT OF FOCUS

By the Observer

Kennedy Asks for Action

The Kennedy Administration has served notice that it will go all out to seek enactment of the health insurance program for the elderly under the Social Security System.

In his February 27 message to Congress on health legislation, the President said, "The cost of health services in later years can be spread over the working years—and every worker can face the future with pride and confidence. This program, of course, would not interfere in any way with the freedom of choice of doctor, hospital or nurse. It would not specify in any way the kind of medical or health care or treatment to be provided. But it would establish a means to pay for the following minimum levels of protection:

"First—Inpatient hospital expenses for up to 90 days, in excess of $10.00 per day for the first nine days (with a minimum payment by each person of $20.00), and full costs for the remaining 81 days.

"Second—The cost of nursing home services up to 180 days immediately after discharge from a hospital. By providing nursing home care for twice as long as that in the hospital, the patient is encouraged to use the less expensive facilities when these will satisfy his requirements.

"Third—The cost of hospital outpatient clinic diagnostic services in excess of $20.00. These benefits will reduce the need for hospital admissions and encourage early diagnosis.

"Fourth—The cost of community visiting nurse services and related home health services for a limited number of visits. These will enable many older people to receive proper health care in their own homes.

". . . They would be entirely self-financed by an increase in Social Security contributions of one quarter of one per cent each on employers and employees and by an increase in the maximum earnings base from $4,800 a year to $5,200 a year. . . . I am not unmindful of the fact, however, that none of our social insurance systems is universal in its coverage—and that direct payments may be necessary to provide help to those not covered for health insurance by Social Security. . . ."

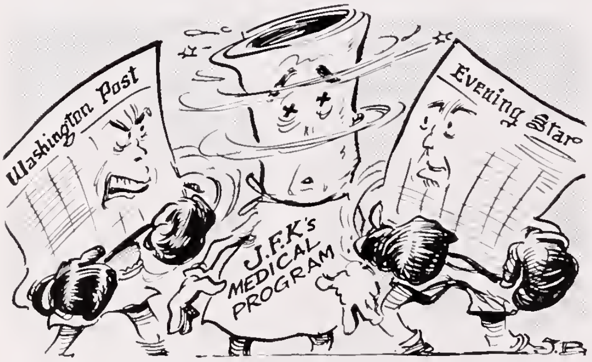
In regard to voluntary methods of providing medical care to the aged, the President said:

"Private health insurance has made notable advances in recent years. But older people, who need it most but can afford it least, are still unable to pay the high premiums made necessary by their disproportionately heavy use of health care services and facilities, if eligibility requirements are to be low and the scope of benefits broad. Today, only about half of our aged population has any health insurance of any kind—and most of these have insufficient coverage.

"To be sure, welfare assistance, and Federal legislation to help the needy or 'medically indigent,' will provide health services in some instances. But this kind of help is not only less appealing, coupled as it is with a means test, it reaches very few of those who are not eligible for public assistance but are still not able to afford the care they need."

Editorially, the Washington newspapers lined up as expected. *The Washington Post* took "pot shots" at the AMA for its vigorous opposition to the Administration's program and warned the President:

> "It would be childish on the part of the President to suppose that organized opposition to his proposals can be overcome by a mere message to Congress, however reasonable and eloquent. If the President wants a medical care program and not merely a political issue, he will have to roll up his sleeves and wade in for a whale of a fight. He can get the program—if he organizes support for it, if he tells his Secretary of Health, Education, and Welfare to go up and down the country speaking for it, if he himself talks directly to the American people explaining why the program is imperative, if he mobilizes and supports the numerous American physicians who are nauseated by the AMA's selfish standpatism and are eager to rebel against it, if he tells his spokesmen on Capitol Hill that this is 'must' legislation, if he encourages the formation of citizens' committees to achieve medical care, if he prods labor and liberal organizations into joining the crusade, if, in short, he leads."



Left hook . . . and . . . Right Cross

The Washington Star, on the other hand, found the President's health message too all-inclusive:

> "We do not know why the President wrapped up so many things in one package, but we suspect the strategy was to put so much into it that there would be something there for everybody. And if this is the case, it justifies the criticism that this message is 'political medicine.'
>
> "As in the past, however, the main battle will swirl around the insurance program for the aged. And the decisive test presumably will come in the House Ways and Means Committee, where, at the moment, a majority is opposed to the plan.
>
> "President Kennedy wants to finance his program by an increase of one quarter of one per cent in the Social Security tax on both employees and employers, and by raising the taxable earnings base from $4,800 to $5,200 a year. One quarter of one per cent may not sound like much of an increase. But it will draw off, in total tax take, more than $1,000,000,000 a year. Even so we think it very doubtful that this will cover the costs of the additional benefits over the long pull.
>
> "Furthermore, the Social Security tax is a tax on gross income—up to $5,200 should this plan be approved. And the one quarter of one per cent increase means that the tax on this income will be three and seven-eighths per cent by January 1. This is roughly equal to, or more than, the Federal income tax paid by many workers not too far in the past. But this will be just the beginning. . . ."

★

AMA's Lawrence

In a recent article in the up-and-coming *Medical World News* there appeared an article entitled "AMA's First Man in Washington," who, the reader soon learns, is Dr. Joseph S. Lawrence. Dr. Lawrence is described as the "grand old man of AMA lobbyists who founded the organization's Washington office and manned medicine's front lines in the historic battle over compulsory health insurance during the late 1940's."

"Joe," as Dr. Lawrence is affectionately known to his many friends, was a very effective representative of the AMA. Now 84 years old, he lives in Tilden Gardens, just off Connecticut Avenue in Washington. Time has slowed him down somewhat physically, but he is still as mentally alert as ever and intensely interested in medical problems. Joe is an "idea man" if there ever was one. He is forever seeking answers to current and often controversial problems.

Joe came to Washington after having served the New York State Medical Society as legislative representative in Albany for 20 years. Although 67 at the time, he vigorously led the forces of AMA against the proponents of compulsory health insurance. Much of his success he credits to the "great grass roots pressure which the doctors generated for their cause."

Dr. Lawrence retired in 1952 with a "high batting average." In fact, the record shows he was never involved in a lost legislative cause. He is now active in the District of Columbia Medical Society as a member of the Society's Committee on Aging.

The term "lobbyist" connotes in the minds of many slick and questionable maneuvering. Usually this is unjustified. Certainly this does not apply to Joe Lawrence, who has always observed the highest standards of conduct. Although wise in the ways of politics, he never left anyone in doubt as to where he stood. He didn't always agree with the stand taken by the organization he represented and was never hesitant in saying so. The AMA gave him a free hand with less restrictions than have been placed on any legislative representative who followed him.

Significantly, Joe kept the respect and friendship of legislators who were supporters of the AMA as well as those who were strongly opposed to its policies. No man could be paid a higher compliment.

His friends in the profession—and, as previously stated, there are still many—hope Joe will continue to be an "idea man" for many years to come. No one will ever be old who possesses Joe's inquiring mind.

★

Effective Committees

Any regular participant can testify that committee meetings too often are a waste of time. There are several reasons for this, among which are: the subject matter is of no real importance; there is a lack of preparation; there is endless and extraneous discussion; and there is failure to observe simple parliamentary procedures. When one considers the myriad of committees throughout the country, the hours lost because of these inadequacies are astronomical.

It occurred to your Observer it might be worthwhile to comment briefly in this column on the elements which, in his opinion, contribute to productive committee meetings. Here are three:

1. *The subject matter is important.* A committee meeting should not be held unless there is something worth discussing. There is no more effective way to destroy the interest and enthusiasm of committee members than to meet without a purpose.

2. *Committee members are competent.* Members of the committee should be qualified to deal with the subjects under consideration. However, this is not enough. Frequently the subject is complex and requires study. More often than not, members fail to do their homework. This is essential if a sound decision is to be reached.

"This afternoon's meeting is now adjourned."

3. *The chairman is efficient and in control of the proceedings.* The chairman is a most important factor in determining the effectiveness with which a committee functions. If he lacks confidence in himself and knowledge of simple parliamentary procedures, a meeting will inevitably bog down. Success depends on his ability to conduct a meeting in an orderly and expeditious manner.

Important though the first two of the above elements are, they can and are nullified by a chairman who is reluctant to curtail unnecessary discussion or who takes a too active part in it. As a matter of fact, if he adheres to his proper role, the chairman guides the discussion so that members do not wander far afield and sees to it that motions are properly made. His role is not that of an advocate.

The chairman's duties are not always pleasant. There are personality and other factors that make him reluctant to insist on adhering to proper parliamentary procedures for fear that he will seem stuffy. Surprisingly, it is not always the forceful type of individual who conducts meetings most expertly. There was, for example, the physician, who is the mildest of men, who not long ago conducted a business meeting of the Medical Society. Once the gavel was in his hands, however, he was master of the situation.

Your Observer does not wish to suggest that chairmen are born, not made. On the contrary, he is of the opinion that a little training will in most instances suffice. He is convinced that medical organizations would profit greatly by sponsoring brief courses for chairmen in committee and parliamentary procedures. The result might be that many endless meetings would be curtailed, which would be a blessing to everyone concerned.

Summing up then, an effective committee takes up only subjects worthy of consideration. It is made up of competent individuals and it is fortunate in having an efficient chairman. Incidentally, those attending committee meetings of our Society will have observed that the elements discussed here are usually in evidence.

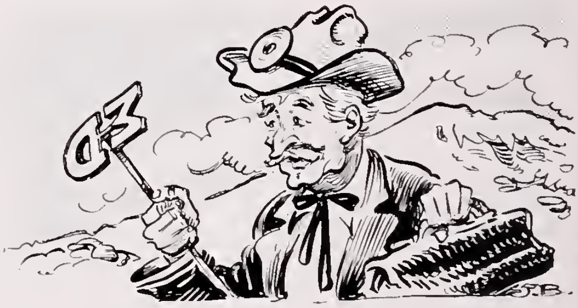
★

Σ D Somewhere among his souvenirs your Observer has a copy of a Western newspaper, *The Midland Mail*, the date line of which is sometime in 1916. The *Mail* was published in a small town in the West River country of South Dakota. On the back page of each issue were the brands registered by ranchers in that part of the country. The purpose of their publication was to serve notice as to whom animals bearing the various brands belonged.

Your Observer had become acquainted with brands some years before in Western Montana. In fact, it was his job at that time to care for some 200 horses bearing the brand 9 - ♡.

This explains his interest in one of the releases which come across his desk from the Montana Medical Association. Attached was a mat bearing the brand Σ D for reproduction in medical journals. The release stated that "the spirit of the Old West was revived again in the office of the General Recorder of Marks and Brands for the State of Montana when the Montana Medical Assocition registered its 'Lazy M D' brand. . . . This, despite the fact that the . . . Association does not operate a range or own cattle, horses, or sheep. In fact, the authorization permits the use of the 'Lazy M D' brand only on the right shoulder of elk and deer . . . but the Association does not own any elk or deer, either.

"The 'Lazy M D' brand will be used on the cover of a book soon to be published by the . . . Association entitled, 'Medicine in the Making of Montana.'. . .



Not Brand New . . . Brand Old!

"This volume about Montana physicians and their influence on the early development of Montana has been in preparation for nearly 30 years. . . . It covers the days of the territorial period through 1890, one year after Montana was admitted to the Union as the forty-first state. Medical practice from the time of the Lewis and Clark Expedition, through the fur-trading and gold rush days that followed, is reported in detail."

Undoubtedly, the volume will prove highly interesting not only to physicians of Montana but to any who are interested in stories about the Old West. However, your Observer's purpose in these comments is not to sell books but to direct attention to an alert state medical society which takes advantage of its state's heritage.

TESTIMONIAL DINNER

In recognition of the signal accomplishments of Mr. Theodore Wiprud, Executive Director of the Medical Society of the District of Columbia and Managing Editor of the MEDICAL ANNALS, a testimonial dinner is being arranged to which legions of his friends, both from Washington and throughout the country, will be invited.

Mr. Wiprud recently announced his request for retirement next July 1 from his present posts.

The black-tie dinner will be held on Saturday, May 19, 1962, at the Mayflower Hotel, preceded by a reception; members, friends, wives and escorts will be invited.

The General Chairman of the Committee on Arrangements is Dr. Herbert P. Ramsey, and Secretary, Mr. Lawrence A. Zupan.

Inquiries may be directed to the Committee, 1718 M Street, N.W., Washington 6, D. C., telephone District 7-3111.

It is perhaps unnecessary to explain that "Lazy M D" does not imply that doctors of Montana have been or are lazy. It is only descriptive of the "M" in the brand, which lies on its side.

★

Thank You! As this is written your Observer has less than four months to go in his present position. Strangely, most of the time he is not conscious of this, which illustrates how much we are creatures of habit. He is so busy with his duties that he doesn't give his retirement a thought, which is as it should be.

Many interested persons have asked about his plans for the future. These are for the moment uncertain. However, he does not intend to retire to inactivity and fully expects that there will be another interesting chapter in his life.

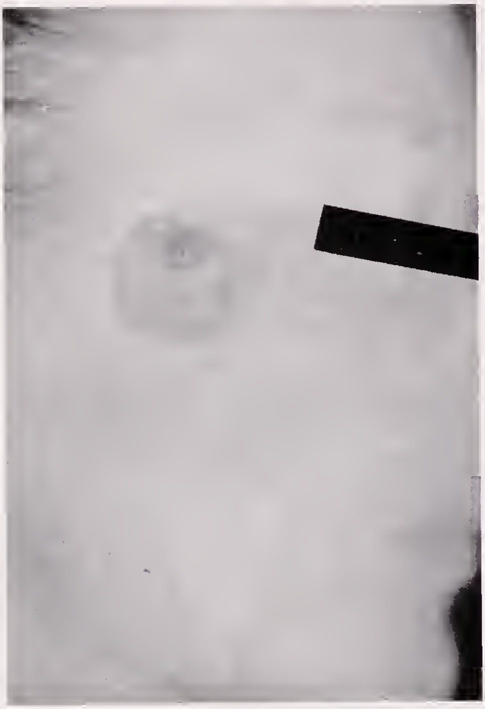
To officers and members of the Society he wishes to express his deep gratitude for their friendship and confidence. It has been a great privilege to work with as fine a group of professional men as is to be found anywhere. Your Observer can say in all sincerity that if he had the past 24 years to live over again, he would pursue the same course. In other words, he is glad he came to Washington.

Finally, your Observer wishes to express his indebtedness to the office staff, some of whom have been with him for ten or more years. The latter include Mr. Lawrence A. Zupan, Assistant Secretary; Miss A. Louise Eckburg, Assistant Editor of the MEDICAL ANNALS; Miss Lois O. Ryder, Bookkeeper; Mrs. Evelyn C. DeBray, head of the Circulation Department; Mrs. Dora F. Caylor, Receptionist; and Miss Mary M. McCambridge, Supervisor of MEDICAL BUREAU; they and some of the newer arrivals have made important contributions to the Society's continued progress.

T. W.

LOOK FOR THE CHANGE

Malignant melanomas like other cancers give **warnings** which *must* be heeded if treatment is to be successful.



Long-standing nevus on face suddenly changed color in center part.

REMEMBER:

1. Malignant melanomas develop from pigmented junctional nevi.
2. They are manifested by changes in color, character and size of nevi.
3. Sites of predilection are nevi on soles of feet, palms of hands, and genitalia.
4. Best results are obtained by *early, adequate excision.*

A film, "Moles and Melanomas" is available for showing to physicians.

RESEARCH
EDUCATION
SERVICE

Call or Write

American Cancer Society

District of Columbia Division, Inc.
810 - 18th Street, N.W.
Washington 6, D.C.
EXecutive 3-3690

The Case of the Slippery Statistic

AUSTIN SMITH, M.D.

President, Pharmaceutical Manufacturers Association

No one quarrels with the right to be critical of abuses. I have always been among those who believed—and still do—that abuses should be corrected, and if criticism will effect such change, I always have, and will continue to raise my voice in protest. But at the same time I do believe fairness alone warrants seeking all of the facts, not just a few accusations.

Let me tell you the story of a wandering statistic to emphasize my point. It is not as important as currently proposed legislation but it reveals how confusion can be compounded.

This chronology traces a single statistic from its humble beginning to the pages of *Time* magazine. It shows how some of the most highly respected physicians and communicators of our Nation can innocently nurse a statistic into a complete distortion of the truth. It points the moral that in criticizing, including the pharmaceutical industry, physicians, scientists and writers should check their data with the same care as they would want accorded to life-saving treatment.

Each year the "Drug Topics *Red Book*" publishes an exhaustive list of the products sold through wholesale and retail drug outlets. Several years ago, at an annual meeting of the American Medical Association in San Francisco, a prominent Boston physician commented on figures from this publication as follows: "An advertisement for a recent edition of the *Red Book*, which lists all of the 140,000 medicaments handled by pharmacists and available to physicians for patients, states that 14,000 new drugs were issued by drug manufacturers in 1953."

This and other statements in the address subsequently appeared as an article in a well-known national medical journal, but, unfortunately, in spite of his apparent care in describing the *Red Book* statistics, the author of the article used the word "medicaments" and failed to mention that these items include thousands of duplicate items, and range from prescription drugs to eyebrow pencil and perfume.

Three months after the article was published, and at another annual meeting of the American Medical Association, a renowned physician, then professor of medicine at a New York medical school, delivered a lecture before one of the Association's sections. This, too, subsequently was published. Unfortunately the New York physician referred to the earlier article by the Boston physician and stated: "... Therapeutic preparations are confusingly numerous and varied. In the lists of 1953, more than 140,000 medicaments were available to practitioners, and 14,000 new preparations were added during the year."

Regrettably, he used the label "therapeutic preparations" and he too eliminated the necessary description of the *Red Book* figures.

When this latter article appeared in print, an acknowledged marketing research authority of New York City wrote to the author to check the source of his figures. The author responded by telephone and told the researcher that he had obtained the figures from the statistical department of his university. The researcher then consulted the statistical department and learned that its source was the same figures referred to misleadingly by the Boston physician.

Having studied the marketing figures of the industry for many years, the market researcher knew that the new products introduced annually totaled somewhere near 400, not 14,000, and he so informed the New York doctor and the statistical department of the university. And yet, five years later (1961) the editor of a medical journal published an editorial deploring the number of drugs now available and stated: "Five years ago, in an article (name of author) pointed out that to the already staggering total of about 140,000 medicaments in current use, of which an estimated 90 per cent did not exist 25 years previously and 75 per cent had been introduced within ten years, some 14,000 new ones had been added during the current year. . . ." Thus, the distorted statistic returned to active service after a five-year furlough.

The market researcher who recognized the errors five years ago wrote to the editor of the journal to give him accurate figures. Meanwhile, the news bureau of this editor's university put out a news release based on the medical journal editorial, as the editor was a member of the university staff. This release was picked up by the Associated Press, by the *Newark Evening News*, and by *Time* magazine, among others. Here is how *Time* magazine in part used the statistic: "No fewer than 150,000 preparations are now in use, of which 90 per cent did not exist 25 years ago, and 75 per cent did not exist ten years ago. About 15,000 new mixtures and dosages hit the market each year, while about 12,000 die off."

---

* A portion of the address delivered before the State Medical Journal Conference in Chicago, October 31, 1961.

Comparing *Time*'s version with the previous ones, it is evident that a new element of distortion was added. For the first time the figures are boosted to 150,000 preparations total and 15,000 added per year. *Time*'s use of the words "new mixtures and dosages" may look like a step toward accuracy, but to me they merely confirm ignorance of the actual nature of the *Red Book* listings. No indication is given of the source of the information that "12,000 die off" each year.

As an isolated problem the above case is scarcely cause for panic. However, it is disturbing as one more episode in a long history of factual distortions about one part of this country's health picture, the prescription drug industry. And I mention it to the members of this audience because of the nature of the work and because there is need for all of us to be properly informed about the elements of medical care and their costs.

A classic case of distorted statistics began on December 7, 1959, when the chairman of the Senate Subcommittee on Antitrust and Monopoly, discussing costs of prednisone during the recent drug price hearings, turned to an associate in the Senate hearing room and asked, "What is the percentage of the markup from $1.57 to $17.90?" In reply Dr. John Blair said: "Mr. Chairman, it is 1,118 per cent markup, roughly 11 times. . . ." Mr. (Francis) Brown, President of Schering Corporation, who was in the witness chair, retorted: "If I may be permitted to do so, I would like to say I consider this not to be the proper relationship, because this does not include the expenses of doing business which I have outlined. This only includes the bare factory production costs. . . ."

In spite of Mr. Brown's explanation the result of the question and reply was immediate, predictable, and irreversible. The Nation's press promptly headlined the raw percentages, and converted markup into profit. "PROFITEERING CHARGED TO DRUG FIRM," shouted the *Philadelphia Inquirer* (December 8, 1959). "DRUG FIRM TOOK MARKUP OF 1,118 P.C., PROBERS SAY" proclaimed the *Baltimore Sun* (December 7, 1959). In the stories, but lost under the weight of the headlines, was the qualification that reference to this markup did not include most of the cost of business. Lost was Schering President Brown's statement to the press that his overall profit was 16 per cent and that his prednisone profit is probably around 12 per cent.

The *Baltimore Sun* commented on this and other arithmetic as follows:

> "The subcommittee contended that research costs for Schering were about 8½ per cent of its sales last year while the industry's distribution costs averaged 23½ per cent.
>
> " 'Add 8½ per cent and 23½ per cent,' the Tennesseean [Kefauver] commented, 'and it's a long way from 1,118 per cent.' "

The serious subject of fatalities during clinical investigation of drugs was also put through the wringer of statistical distortion during the drug hearings. A highly publicized hearing-room debate took place during discussions on the oral anti-diabetic Diabinese.® An eminent physician included in his prepared statement for the hearings the following sentence: "At the time of application to the F.D.A. some 2,000 case reports were submitted, and despite the inclusion of 43 deaths and a number of instances of jaundice, the drug was passed for public sale in 1958."

Fortunately, some of the press reports include the strong denial of this figure by other medical witnesses. *The Washington Post* (April 28, 1960), for instance, goes on to say: "Later, he (the accusing physician) told a reporter that only eight deaths could be traced to the drug."

But a serious loss of public confidence both in the drug and in the judgment of their physicians resulted according to other testimony presented on subsequent days. The drug industry has frequently been the butt of criticism about "misleading" promotion. But the companies would have to go far to outdo the misrepresentations put forth by some of their critics. A prime example occurred during the drug hearings when a testifying physician stated:

> "An example of a big promotional idea was that of Smith Kline & French who in October 1957 sent this assorted sample package of drugs to my office, and it is assumed to all 150,000 doctors' offices throughout the country, and as shown here in the statement, the wholesale cost of these drugs amounts to $18.99. The postage alone—4 pounds—amounted to $1.05. When estimated for all 150,000 doctors, it comes to the wholesale cost of the drug, $2,248,500 and the postage at $157.000, making a total for that one promotional campaign of slightly over $3 million."

The critic's assumption was, of course, completely erroneous. The distribution of the packet was limited to some 6,000 physicians, mostly new doctors being introduced to SK&F products, and cost not three million dollars but around $100,000.

A much more serious case of statistical inaccuracy occurred more recently. A former participant in the drug hearings was being questioned by a Senate committee. He commented on drugs among other things. In preparing a story about this hearing, United Press International stated on May 31:

> "About 24 cents of every dollar that the American consumer spends on prescription medicine is used by the drugmakers to advertise and promote their products. Paul Rand Dixon, Chairman of the Federal Trade Commission, gave this statistic to UPI following recent testimony before a House committee . . . ."

Several errors were built into that figure. The reported figure covers everything from advertising to warehouses to returned goods. The importance of this distinction can be seen in the figures published in the June 13, 1960 issue of *Chemical & Engineering News:*

> "The bill for promotion and advertising? Not out of line, according to company figures. Parke, Davis spent less than 3 per cent of sales in 1959 for promotion and advertising. At Abbott, the bill for advertising in 1959 ran about 6 per cent of sales. Upjohn says its outlay for such activities in 1959 ran about 6.6 per cent of sales, down from 7.6 per cent in 1958 . . . ."

The United States is today embroiled in fundamental conflict over the methods of providing health care. Our individual and national health hang in the balance. Under attack is the free practice of medicine and the competitive enterprise system of supplying health services. Only through full knowledge of the most accurate information obtainable will the American public be able to make the wisest decisions. The debate cannot help being emotional, but there is absolutely no room for dubious statistics.

We in the medical profession and the pharmaceutical industry have been accused too often of being ultraconservative. I do not think we can be justly accused of being obstructionists; we only ask for the privilege of being certain that change is for the better before we adopt it. In fact, often we are the ones to advocate change in the health care field. I can find nothing wrong with conservatism when life is at stake. Perhaps the medical brand of conservatism is not understood. If so, let me paraphrase a few sentences from a paper given before the Chicago Literary Society. It was entitled "The Reluctant Conservative."

> "Conservatism has been said to reflect a discriminating respect for the wisdom of one's ancestors. Few people are born respecters of this wisdom or show it in their childhood and youth, but experience tends to develop it. 'In time a man comes to realize that prevailing customs would probably not have come into use had they not once served a purpose and would probably not have endured had they ceased to serve that or some other purpose.'
>
> "Conservatism that is intellectually respectable boils down to the conviction that existing institution, customs, rights, privileges and the like are a closely interrelated whole, reflecting the experience of many generations, and by and large, they are good rather than bad.
>
> "The thoughtful conservative, though he admires the sometimes awesome achievements of human reason as much as any liberal, is unwilling to submit himself entirely to the guidance of his own reason or the collective reasoning of his fellows. He has observed the withering effect of time on the fruits of reason—the disturbing frequency with which a scheme that appears reasonable one day seems less so the next, and quite unreasonable a week or a month or a year later. . . . He believes that the very faculty of discriminating should be used with discrimination."

Team Approach via the Classroom

MILDRED ELLIOTT BERL, M.A.

Educational Director, School Guidance Center, Washington

In Washington, there are an estimated 4,000 public school children who are in need of services of the psychologist. The enormity of this problem is further compounded when one realizes that these 4,000 represent only those children who have been identified as needing help. The unidentified—the quiet child who seems dull, the child who is frequently absent because of psychosomatic disorders, the inattentive child whose petit mal seizures are not recognized—represent a far greater number who are moving forward in the statistical columns to maintain mental illness as the Nation's number one health problem.

To help teachers identify these children, the School Guidance Center, in coöperation with American University, has for the past year conducted classes for teachers about the emotionally disturbed child. With the coöperation of specialists in the allied medical fields, the teachers have considered problems of the acting-out child, the child with school phobia, the potential "drop-out," the delinquent, the "under-achiever," the autistic child, and the child with diffuse dysfunction of the central nervous system.

For the teacher, the child's physician is frequently the main source of support in getting aid for the emotionally disturbed child. Too frequently, however, the pediatrician may be the last person in the child's constellation to know that the child is disturbed. He generally sees the child when he is physically ill, and symptoms of emotional illness may be either temporarily in remission or overlooked in the immediate problem of the physical illness or accident. Today, pediatricians-in-training are being taught the accompanying emotional factors of such disorders as accident proneness, asthma, digestive disorders, and others. Numerous articles in the journals serve to acquaint the physician with the psychic disorders, and if he is too tired to read he is gently educated via the television drama. All this information is helpful to the physician only if he is kept informed by the persons who see the child on a longitudinal observation basis. The pediatrician cannot help the child who has petit mal seizures if the child's parents and/or the child's teacher neglect to report that the child seems to lose contact at times or is a frequent day-dreamer. The pediatrician cannot help the child with an aphasic disorder if the parents neglect to tell him that Johnny's reluctance to answer him is not due to shyness but because his vocabulary is limited to two or three words or none or that Tommy is in the third grade but is still on the pre-primer level of reading. He cannot direct the mother to a child guidance clinic if she does not report that Jane vomits every morning when she goes to kindergarten. He cannot send Bob for psychiatric help if Mother fails to report that Bob has been picked up by the local policeman several times for shoplifting in the dime store.

Out of 100 families consulting the School Guidance Center for help in school learning problems, only ten per cent had discussed the problem with the family physician. An example of leaving the pediatrician in the dark is the Foster family. The family came for help in finding a remedial school for Roger who was returning in the middle of the school term unexpectedly. Roger had been in South America with his grandmother, who had taken along a tutor with the hope of "widening Roger's horizons." This was what was reported to the school counselor and to his pediatrician, who had asked about Roger's recovery from a severe accidental cut. What was not reported was that Roger had been taken away by his grandmother after a neighborhood fracas to avoid court involvement for a prestige-status family. Also was not reported a homosexual entanglement with the tutor, which had resulted in Roger's abrupt return to his family.

In discussing Roger's school placement, the parents mentioned that a younger brother Donald was having trouble with reading in school. A check with Donald's teacher and principal brought the report that Donald was probably a "border-line retardant." The pediatrician's guess was that their poor school adjustment was due to frequent moves the family had made. The counselor commented that perhaps the boys' difficulties might have prompted the frequent moves. With some insight the pediatrician considered this possibility and asked for more intensive studies of the boys. Psychologic tests revealed both youngsters to be in the superior range of intelligence despite their inadequate school achievement. The pediatrician followed this finding with neurologic studies of Donald, which revealed gross organicity, and with psychiatric studies of Roger, who was classed as "severe character disorder."

If the doctor had had an earlier report of the boys' school difficulties he might have correlated this with Roger's accident proneness and probably would have recommended psychiatric help earlier. Donald had been thought "almost defective" by his teachers, but his parents had not thought it a matter to be discussed with the doctor, thus hiding the detection of his neurologic disorder.

One school received an evaluative report from a leading diagnostic center about a child whose parents were described (after one session) as being very understanding and helpful. Perhaps! But the parents had not reported that they had withdrawn their son from school in order to avoid special conferences with the school psychologist and that they frequently locked him up alone in a room over the garage.

It is not the responsibility of the classroom teacher to diagnose a child's disorders, but it is in the child's best interests for the teacher to make meaningful observations for the help of the diagnostician. The teacher has the experience of years of observation of children in an operational setting among their peers. The child who is "different" is noted over a period of time by his lack of expected school progress, his aggressive behavior, or his withdrawal. Early reports to the child's pediatrician could result in specialized help before the difficulty became solidified into a behavior pattern beyond rehabilitation.

The pediatrician must not feel guilty nor inadequate if he has not been the first to discover an emotional disorder. He is not first at the scene of an accident or at the onset of a fever either. Just as he accepts the reporting of the accident without personal involvement, so he might accept the report of abnormal behavior on the part of one of his patients.

Since the pediatrician has little direct contact with the classroom teacher, he might inquire during his examinations how Mary is getting along in school. If there is trouble, he might ask the parent to give the teacher permission to send him a report. He might give an attentive ear to the teacher who calls, remembering that her anxiety about the child may make her defensive in her presentation of the problem. If her "complaint" is understood as "concern," she will be encouraged to communicate her observations accurately. Sharing her anxiety and finding an ally may help the teacher cope more effectively with both the child and his parents.

The interdisciplinary approach is widely advocated in medical circles. The teacher should be encouraged as a contributing professional in maintaining mental health.

The School Guidance Center is a nonprofit organization, incorporated under the laws of the District of Columbia. The School Guidance Center also maintains the Agnes Bruce Greig School, 5450 Massachusetts Avenue, Sumner, Md., a school for emotionally disturbed children of normal intelligence which is approved by the Maryland State Board of Education as a school for exceptional children. Medical consultants for the School Guidance Center are Drs. Ralph Wadeson, George Sprehn, Albert Winer, Charmian Elkes, James Peter Murphy, and Hugh Clark.

DR. BATEMAN APPEARS IN CANCER FILM

Dr. Jeanne C. Bateman (right) participated in the filming of a movie on "The Management of Incurable Mammary Cancer" at Memorial Hospital for Cancer and Allied Diseases in New York City, December 16. Dr. Joseph Farrow, Chief of Breast Surgery at Memorial Hospital, moderated the panel of experts, which included Dr. Bateman; Dr. Gilbert Fletcher (above), of Houston, Texas; Dr. Henry T. Randall, of New York; and Dr. Samuel Taylor, of Chicago.

Funds Given To D. C. Medical Schools

AMA-ERF CHECKS TO WASHINGTON DEANS OF MEDICINE

Dr. J. Spencer Dryden (left), President of the D. C. Medical Society, presents checks, March 9, to the three Deans of the Medical Schools in Washington: (left to right) Dr. Hugh H. Hussey, Georgetown University; Dr. John Parks, George Washington University; and Dr. Robert S. Jason, Howard University. The checks represented the allotment to the District of Columbia from funds contributed by the Nation's physicians during 1961 to the American Medical Association Education and Research Foundation.

Washington medical schools received gifts, March 9, totaling $36,128.41 from the American Medical Association Education and Research Foundation.

Checks were presented to the individual schools by Dr. J. Spencer Dryden, President of the Medical Society of the District of Columbia, on behalf of the Foundation.

Receiving the grants on behalf of the schools were: Dr. Robert S. Jason, Dean of Howard University College of Medicine, who accepted a check for $5,287.07; Dr. John Parks, Dean of George Washington University School of Medicine, $11,999.57; and Dr. Hugh H. Hussey, Dean of Georgetown University School of Medicine, $18,841.77.

The money was part of $1,303,161.10 contributed by the Nation's doctors during 1961 to the country's medical schools through the Foundation. Of the total amount, $202,219.27 was raised through the efforts of the Woman's Auxiliary to AMA. The total was the largest amount contributed to the Foundation in a single year.

Deans of individual medical schools may use the money at their discretion for special projects or for expenses outside their budgets.

The AMA established the program in 1951 so physicians could play a greater part in the financial support of medical schools. Money contributed to AMA-ERF may be designated for a specific medical school. All money not designated is divided equally among the 86 schools.

Physicians have given more than $11,500,000 to medical schools through the Foundation since it was created.

In addition to seeking funds for medical schools, AMA-ERF encourages financial support from physicians, constituent and component medical societies, the Woman's Auxiliary, philanthropic organizations, business entities, and the general public for a variety of programs including:

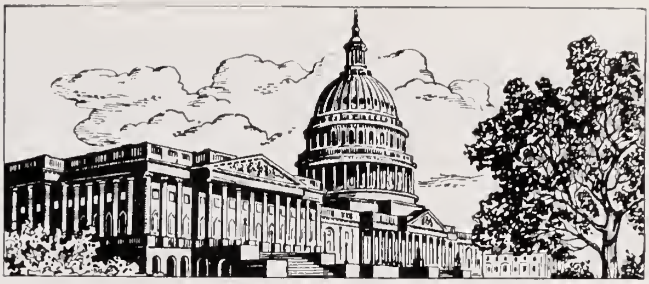
—Medical journalism fellowship project.

Research grants program for medical research workers.

—Perinatal mortality and morbidity study.

—Study of continuing medical education.

During 1962 the Foundation will undertake to raise funds for medical scholarships and for loans to medical students as well as to physicians serving internships and residencies.



NEWS & PERSONALS

Meetings

Speakers for the **Cardiac Symposium,** Wednesday, April 25, were listed in the March issue of the MEDICAL ANNALS. The Symposium, which is co-sponsored by the Heart Association of Northern Virginia and the Washington Heart Association, will be held in the auditorium of the Medical Society of the District of Columbia, 9:00 a.m. to 5:00 p.m. The registration fee of $5.00 will include the luncheon at the Hotel Statler-Hilton. Enrollment is limited to 400. The Washington Heart Association, 1000 Connecticut Avenue, N.W., Washington 6, D. C., is asking that physicians register on or before April 15.

The Maryland and District of Columbia Academies of General Practice will sponsor a two-day **Scientific Assembly** at the Sheraton-Park Hotel on May 5 and 6. There will be no registration fee. All practicing physicians, hospital residents, and interns are invited. All AAGP members will receive Category I credit for hours spent in attendance.

Registration will open at 9:00 a.m. on Saturday, May 5. The morning will be given over to a panel discussion on Disaster Medicine Program. National and local officials will take part in this meeting.

At the afternoon session six papers will be presented by the following speakers: Dr. Thomas R. Dawber, Medical Director, Heart Disease Epidemiology Study, Framingham, Mass.; Dr. Edwin Boyle, Jr., Medical College of South Carolina, Charleston; Dr. Richard D. Richards, University of Maryland School of Medicine, Baltimore; Dr. Edward S. McCabe, Philadelphia General Hospital; Dr. William B. Parsons, Jackson Clinic, Madison, Wis.; and Dr. Harold W. Kimmerling, Southwestern Medical School of the University of Texas, Dallas.

On Sunday, May 6, there will be both morning and afternoon sessions. The morning speakers will be Dr. John D. Schultz, Medical Director, D. C. General Hospital; Dr. Howard I. Ticktin, George Washington University School of Medicine; and Dr. Barbara Braden, University of Oklahoma School of Medicine.

The first paper in the afternoon will be concerned with the mentally retarded child. The speaker will be Dr. C. H. Carter, Medical Director, Sunland Training Center, Orlando, Fla. The final speaker will be Dr. Ephraim T. Lisansky, University of Maryland School of Medicine. His subject will be "How to Distinguish the Psychologically from the Physiologically Ill Patient."

For visiting wives, a luncheon on Saturday, followed by a sightseeing tour, has been planned.

General News

The Executive Board of the Medical Society of the District of Columbia held its regular meeting on March 5, 1962. Presiding was the Chairman, Dr. James W. Watts. The Secretary stated that he would like to turn over the photographs of the Society's Presidents with whom he has served, each of which is identified with an inscribed brass plate, to the Society. The Board accepted the photographs and voted that they be hung permanently in a suitable place in the Society's building.

Dr. Daniel L. Finucane, who has rendered distinguished service as Director of Public Health Service in the District of Columbia for the past five years, was selected by the Board to receive the Society's 1962 Certificate for Meritorious Service. The Certificate will be presented at a meeting in the fall.

The annual publication of "**Reviews of Medical Motion Pictures**" is now available from the Film Library of the American Medical Association. This publication is prepared by the Division of Communications, Department of Medical Motion Pictures and Television, AMA, and contains reprints of all reviews published in the J.A.M.A. during 1961.

The Section on Neurology, Neurosurgery and Psychiatry of the D. C. Medical Society elected new officers on February 15. They are:

Dr. John P. Gallagher, *Chairman*; Dr. Thomas L. Auth, *Vice Chairman*; and Dr. Virginia A. Duggins, *Secretary-Treasurer*.

The retirement of Dr. G. Halsey Hunt, Chief of the Division of General Medical Sciences, National Institutes of Health, announced in February, became effective April 1. Dr. Hunt will become Associate Executive Director of the Educational Council for Foreign Medical Graduates, Evanston, Illinois, and will move up to Executive Director of ECFMG on January 1, 1963, upon the retirement of Dr. Dean F. Smiley.

Dr. Hunt was commissioned in the U. S. Public Health Service in 1936. He was assigned to the National Institutes of Health in 1956, when he was named the first Director of the Center for Aging Research. In July, 1958 he became the first Chief of the Division of General Medical Sciences, which was established to handle the NIH grant programs for research and research training in the basic medical and biological sciences. He has represented the Public Health Service on the Board of Trustees of Medical Service of the District of Columbia since 1946. He was Vice President of Medical Service in 1946, 1951 and 1956.

ECFMG is sponsored by the American Hospital Association, the American Medical Association, the Association of American Medical Colleges, and the Federation of State Medical Boards of the United States. The Council examines the medical qualifications of foreign medical graduates who seek training as interns or residents in United States hospitals, and will concern itself increasingly with efforts to improve the educational opportunities for foreign graduates.

Captain Robert B. Brown, MC, USN, has been installed as **Commanding Officer of the National Naval Medical Center,** succeeding Rear Admiral Frank P. Kreuz, who will assume command of the Naval Hospital at Great Lakes, Ill. Captain Brown previously commanded the Naval Hospital in Bethesda. **Captain Robert O. Canada, Jr., MC, USN,** has been named to command the Hospital and is also **Deputy Commanding Officer** of the Center.

Mr. John W. Castellucci, Executive Vice President of the National Association of Blue Shield Plans, Chicago, was recently selected as recipient of the Outstanding Health Service Award of the Michigan State Medical Society. The Award, presented annually to non-physicians active in the field of health care, was presented to Mr. Castellucci "in recognition of valuable contributions given in behalf of voluntary prepaid medical service plans as an executive of Michigan Medical Service, and as Executive Vice President of the National Association of Blue Shield Plans." Mr. Castellucci has been chief executive officer of the National Blue Shield Association since 1955.

Dr. George Speck is the first physician elected to the Board of Governors of the **Alexandria Hospital Corporation.** The first physicians to become voting members of the Corporation, following a change in the by-laws, were Drs. Speck, Charles V. Amole, A. J. Delaney, C. Albert Hudson, Colin MacRae, and Christopher J. Murphy, Jr. Drs. Speck, Hudson and Murphy are Associate members of the D. C. Medical Society.

Dr. Hugo V. Rizzoli and Dr. Ernest A. Gould have been elected for three-year terms as trustees of the Washington Hospital Center Corporation. Mr. A. Murray Preston, a Vice President of the American Security and Trust Company, was reëlected President of the Board of Trustees.

Personals

Dr. Daniel L. Finucane, retiring Director of the Department of Public Health, was honored at a farewell party in the Grand Ballroom of the Mayflower Hotel, February 26. Some 560 colleagues, civic leaders, staff members, and other associates in the field of private and public health gathered to express their appreciation of his work during the past five years and to wish him success in his new post with the Prince Georges County Health Department.

The Honorable John B. Duncan, Commissioner of the District of Columbia, was present to pay tribute to Dr. Finucane. Dr. Frederick C. Heath, Assistant Director of Public Health, gave a brief talk and presented Dr. Finucane with a number of gifts with which to remember the occasion.

A photographic portrait of **Dr. Winfred Overholser,** Superintendent of St. Elizabeths Hospital, was presented by Dean Parks to the Department of Psychiatry of George Washington University in brief ceremonies, February 21. The presentation was in recognition of Dr. Overholser's long teaching service at the Medical School.

Dr. James M. Moss, Associate Member of the D. C. Medical Society, was installed as President of the Virginia Society of Internal Medicine at its meeting in Richmond, February 17.

Dr. Moss was elected a delegate from Alexandria to the Medical Society of Virginia for a four-year term, effective January 1, 1962. He has been appointed by the Medical Society of Virginia to serve as co-chairman with Dr. C. Willard Camalier, Jr., of Washington, of the Second Interstate Scientific Assembly, to be held at the Sheraton-Park Hotel, October 15–17.

Dr. John C. Watson, Associate member of the Medical Society, is President-elect for 1962 of the Northern Virginia Society of Internal Medicine.

Membership

The following applicants for membership were duly elected to membership by the Executive Board, March 5, 1962, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

Alice Brigham, 1712 Eye Street, N.W.
Virginia A. Duggins, 1726 M Street, N.W.
James T. Estes, 915 19th Street, N.W.
Charles Keck, 1703 Rhode Island Avenue, N.W.
Lewis H. Kurtz, 2727 6th Street, N.E.
Daniel H. Mintz, D. C. General Hospital
Cornelius F. Murphy, George Washington University Hospital
Eugene H. Short, 201 Eighth Street, N.E.
Alan W. Winshel, 2025 Eye Street, N.W.

Associate Members

Gilbert D. Barkin, 800 Pershing Drive, Silver Spring, Md.
Katherine V. Greene, 625 South 25th Street, Arlington, Va.
Carlos C. Sera, 3559 55th Avenue, Hyattsville, Md.

Letters to the Editor

VENEREAL DISEASE LITERATURE

Since 1957 infectious syphilis has been increasing at an alarming rate in all races, sexes, ages, social groups, and geographic areas. Physicians who have not observed a single case of infectious syphilis in 20 years suddenly are finding it among their patients.

Concurrent with this resurgence, unfortunately, is a paucity of literature and information on venereal disease available to the private physician.

To partially alleviate this situation and serve a pressing need, the Venereal Disease Program of the Public Health Service routinely abstracts current articles on venereal diseases from almost 1,000 journals both domestic and foreign. A publication entitled "Current Literature on Venereal Disease" including these abstracts is printed three or four times a year and indexed annually. It is distributed regularly free of charge to physicians on their personal request.

Will you please, as a service to your readers, alert them to the availability of this publication and suggest that if they wish to receive it, they may write to Communicable Disease Center, Atlanta 22, Georgia, Attention: Dr. William J. Brown, Chief, Venereal Disease Branch, requesting that their names be added to the mailing key for "Current Literature on Venereal Disease."

William J. Brown, M.D.
Chief, Venereal Disease Branch,
Communicable Disease Center,
Public Health Service,
Department of Health, Education, and Welfare

Georgetown University's Diabetic Diet Instruction

Materials: Tape recorder adaptable to 3¾ feet per minute; American Dietetic Association Meal Planning Booklet; American Dietetic Association 1,200 Calorie Diet Sheets.

This material is planned for the basic instruction of the new diabetic patient or as a review for a diabetic of many years' duration. It is planned at the 1,200-calorie diet level because this is the diet called for by the largest group of patients seen in our clinic. Once the patient understands the 1,200-calorie A.D.A. diet, adjustments can be readily made for higher caloric diets with very little additional instruction.

The basic instruction plan is to have an experienced aide prepare the recording in a room free of distraction and where the patient may be comfortable. The aide should see that the patient has a copy of the Meal Planning Booklet and the 1,200-calorie diet sheet. This method of instruction may be used either for individual or for group teaching. The aide starts the recording and may remain in the room or quietly leave for other duties and return in approximately 26 minutes to discontinue the tape.

This method has been trial-tested and found to be completely self-explanatory to most patients. It is very time-saving to the physician and to the staff in a clinic not serviced by a dietitian. More specific adjustments in bland or low sodium modifications must be done individually when requested by the physician.

For further information call or write Georgetown University School of Nursing, Federal 3-2000.

Mrs. Marian Korczowski
Assistant Professor of Nutrition,
Georgetown University School of Nursing

Bibliography of Medical Reviews

The National Library of Medicine announces the publication of the Bibliography of Medical Reviews, Volume 6, Cumulation, 1955–1961. This volume supersedes the annual volumes published during the past five years and lists 3,300 additional review articles from the 1960 literature not previously indexed in the Bibliography of Medical Reviews. The cumulation, containing some 21,000 subject entries for approximately 13,500 review articles collected from 1,949 journal titles over a six-year period, has been edited to conform to the subject headings, listed in National Library of Medicine Medical Subject Headings (1960). The entries are in the style used in the Index Medicus.

In addition to the 436 pages of subject index, there is a list of journals indexed and their abbreviations, and a prefatory article entitled "The Review Literature of Medicine" by Scott Adams, Deputy Director of the National Library of Medicine.

The volume is available from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. at $3.50 per copy.

I should be pleased if you would publish a notice on the availability of this new volume in your journal for the benefit of your subscribers.

Seymour I. Taine
Chief, Bibliographic Services Division, National Library of Medicine, Public Health Service, Department of Health, Education, and Welfare

Obituaries

HARRY ALBERT GILTNER, M.D.

(1878–1962)

Dr. Harry A. Giltner, retired Naval officer, died January 17, 1962 at the U. S. Naval Hospital in Bethesda, Maryland. He lived at 2918 Legation Street, N.W.

Dr. Giltner was born, November 6, 1878 in Chelsea, Indiana. He graduated from the Kentucky School of Medicine, Louisville, in 1898.

Dr. Giltner practiced in Lexington, Indiana, from 1899 to 1908. From 1908 to 1921 he served as Medical Officer with the U. S. Navy. After World War I he retired to inactive duty with the rank of Lieutenant Commander.

He practiced in Parkersburg, West Virginia, from 1921 to 1944, when he came to the District of

Columbia. During his practice in Washington he was on the staff of Mt. Alto Veterans Administration Hospital.

He was elected to Active membership in the Medical Society of the District of Columbia in 1945. He was also a member of the American Medical Association and the American Society of Anesthetists.

Dr. Giltner is survived by his wife, Mrs. Virginia Sullivan Giltner, and two daughters, Mrs. Julian N. Colangelo, of Takoma Park, Md., and Mrs. Otis L. Green, of Silver Spring, Md.

HARRY JUSTIN CRAWFORD, B.S., M.D.

(1898–1962)

Dr. Harry Justin Crawford, Washington psychiatrist and an Associate member of the District Medical Society, died February 4, 1962, at Casualty Hospital. He had been a staff psychiatrist at the Eastern Shore State Hospital in Cambridge, Maryland, from 1954 until last September, when an attack by a mental patient left him incapacitated.

Dr. Crawford was born in Paterson, New Jersey, June 2, 1898, to Samuel and Sarah Crawford. He received his early education in the public schools of Paterson. He enrolled for medical study at Georgetown University, receiving his Bachelor of Science degree in medicine in 1917 and his medical degree in 1921.

He interned at Gallinger (now D. C. General) Hospital for a year, and served a two years' residency at St. Elizabeths Hospital. He studied psychiatry as a graduate student at George Washington University and child guidance at Mt. Sinai Hospital in New York City.

Dr. Crawford was engaged in the private practice of psychiatry in Washington from 1924 to 1927 and again from 1933 until he joined the staff of Eastern Shore State Hospital in 1954. During the intervening years he was First Assistant Psychiatrist at Sing Sing Prison Hospital in Ossining, New York, and later Senior Psychiatrist at Connecticut State Hospital in Middleton, Conn.

He was elected to Active membership in the D. C. Medical Society in 1949 and transferred to Associate in 1955.

He and his wife, Mrs. Catherine Crawford, lived at 2519 Minnesota Avenue, S.E. He also leaves a brother, Charles W. Crawford, and a sister, Mrs. Anita M. Boyan, both of Paterson, N. J.

CHARLES DANIEL SCHEUCH, M.D.

(1921–1962)

Lt. Colonel Charles D. Scheuch, MC, USA, Assistant Surgeon of the Defense Atomic Support Agency's field command, died, January 27, 1962, at the Agency's field command headquarters hospital at Sandia Base near Albuquerque, New Mexico, after a brief illness.

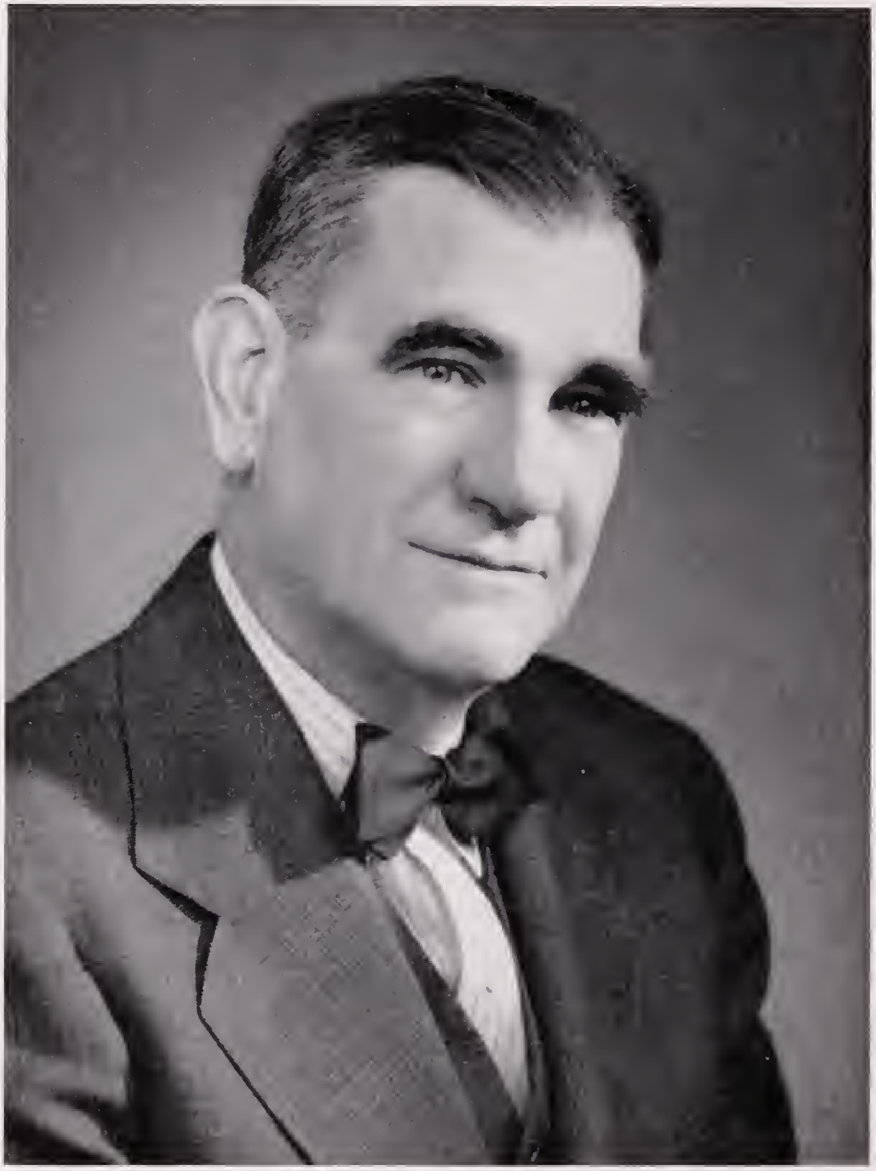
Colonel Scheuch was a Washingtonian, born November 23, 1921, to George C. and Grayce E. Scheuch. He attended the public schools in the District of Columbia and graduated from Roosevelt High School. From George Washington University he received his medical degree in 1944.

Colonel Scheuch interned at Providence Hospital for a year, and served a fellowship in pathology at Georgetown University School of Medicine from 1945 to 1946. The next two years he spent at Providence Hospital as resident in surgery.

He practiced in Washington in offices at 1835 Eye Street, N.W., until 1951, when he decided on a career in the Army Medical Corps. He was assigned to the joint service installation at Albuquerque in 1959.

In 1948, when he began practice in the District of Columbia, he became an Active member of the Medical Society of the District of Columbia, transferring to Associate membership in 1961. He was a member of the George Washington University Medical Society. He also belonged to the Masonic National Lodge, No. 12, F.A.A.M.

He leaves his wife, Mrs. Dorothea Kuntz Scheuch, and three young children, George, Karl, and Margaret, all of Sandia Base. His mother, who resides at 1939 Shepherd Street, N.W., also survives him.



JOHN HUGH LYONS, B.S., M.D., M.S., F.A.C.S.
(1890-1962)

JOHN HUGH LYONS, B.S., M.D., M.S., F.A.C.S.

(1890–1962)

THE GOOD PHYSICIAN

Dr. John Hugh Lyons was truly the "good physician." He not only was a skilled surgeon who mended the broken bodies of his patients, but he was an inspiration to them. His thoughtfulness and modest manner attracted literally hundreds of people, many of whom were not his patients. They were not all important people, by any means, for they ranged from the lowly to the great.

It was my privilege to have served as Secretary of the Medical Society during Dr. Lyons' term as President. The year was 1939, and a stormy one it was for the Medical Society. Despite his abhorrence of bitter controversy, Dr. Lyons could not escape it. I recall vividly how outwardly calm he was in the face of the bitterness which rent the Society. He never wavered in his determination to calm troubled waters.

I feel a particular debt of gratitude to John because during this period I was new to Washington and he guided me away from reefs which might have proved disastrous.

Washington can ill afford to lose a man of his outstanding qualities. On the other hand, people of the Nation's Capital should be grateful that this great man was among them for many years. His life was a shining example of patience and love for his fellow man.

Theodore Wiprud

Dr. John Hugh Lyons, beloved physician and surgeon of Washington, died February 17, 1962 at his home, 2700 36th Street, N.W. He had been in failing health for the past three years.

Dr. Lyons was widely known as Chief of Surgery of the old Emergency Hospital before it merged into the Washington Hospital Center, and at the time of his death was a member of the Board of Trustees of the Center. He was on the teaching staff of George Washington University School of Medicine for some 20 years, where he was Clinical Professor of Surgery.

Dr. Lyons was born in Washington, D. C., October 25, 1890. His parents were John E. Lyons and Annie Stewart Lyons.

A graduate of old Central High School, he was honored as "an outstanding graduate" by its alumni in 1939. He studied at George Washington University, receiving his medical degree in 1918 and the degree, Bachelor of Science in 1919. He went to the Mayo Clinic in Rochester, Minn., for training in his chosen specialty, surgery, and remained there for five years. The University of Minnesota conferred upon him the degree, Master of Science in Surgery, in 1922.

Returning to Washington in 1924, he became Associate in Surgery at Emergency Hospital, and continued his association with Emergency, except for the years he spent in the Army during World War II, until it merged into the Center. He was Chief of Surgery from 1945 to 1956, when he was given the title Emeritus Chief of Surgery. He was also Associate in Surgery at Children's Hospital from 1924 to 1957.

During World War II he volunteered for service in the Army Medical Corps and was appointed Chief of Surgery at Woodrow Wilson General Hospital in Fisherville, Va., and later at the England Army General Hospital in Atlantic City, N. J. He held the rank of Colonel.

For many years Dr. Lyons was associated in the practice of general surgery with the late Dr. James F. Mitchell, in offices at 1344 19th Street, N.W. More recently his offices were at 1150 Connecticut Avenue, N.W. Dr. Lyons was a trustee of the James F. Mitchell Foundation for Medical Education and Research.

After he retired from active practice in 1959, Dr. Lyons became a consultant in surgery to the Washington Clinic.

Dr. Lyons was elected an Active member of the Medical Society of the District of Columbia in 1927, and held its highest office, the presidency, in 1939–40. He was a member of the American Medical Association, the Southern Surgical Association, and a founder and Past President of the Eastern Surgical Society. He was a Fellow of the American College of Surgeons and a diplomate and member of the Founders Group of the American Board of Surgery. He was a member and Past President of the George Washington University Medical Society, and a member of its Council for seven years. The latter Society conferred upon him its annual Award of

Merit in 1957. He was also a member of the D. C. Clinico-Pathological Society and the Washington Academy of Surgery. He contributed a number of articles in the field of surgery to the literature.

Dr. Lyons, a lover of outdoor sports, was a member of the Potomac Hunt and the National Capital Field Trials Club. He was a member of the Metropolitan, Alibi, Alfalfa, and Congressional Country Clubs.

Surviving him are his wife, Mrs. Grace Sorg Lyons, and three children, Dr. John H. Lyons, Jr., of Hanover, N. H.; Mrs. Joan Kramer, of McDaniel, Md.; and Joseph Stewart Lyons, who lives at home.

Several physicians have expressed the opinion that Dr. Lyons' contribution to this community was well summed up in an editorial which appeared in *The Washington Star*, February 20: "It is probable that he will be remembered in Washington as much for his character as a man as for his skill as a doctor of medicine. . . . The close of his long and useful life . . . is a peculiarly personal loss to an unusually large number of people who met him first as a doctor and came to know him as a friend."

Cardiac Transplantation—Webb

(*Continued from page 202*)

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Schistosomiasis—Anderson and Sudan

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Lesser Vein of Galen—Morelli and Hayes

(*Continued from page 223*)

present in all. Further, they obtained filling of the deep cerebral veins in only 75 per cent of their consecutive cases subjected to angiography.

SUMMARY

One hundred randomly selected lateral phlebograms of histologically verified tumors were studied. Measurements were performed after the manner of Wolf et al. An impression that tumor localization by deep vein angiography is unreliable was borne out by calculated analysis.

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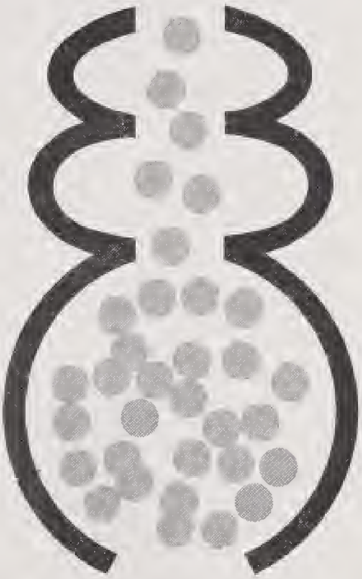

LOMOTIL®

(brand of diphenoxylate hydrochloride with atropine sulfate)

ANTIDIARRHEAL
TABLETS and LIQUID

lowers motility / relieves cramping / controls diarrhea

Roentgenographic studies by Demeulenaere[1] established that a single dose of 10 mg. of Lomotil slowed gastrointestinal transit within two hours and that it maintained its decelerating activity for more than six hours.

In diarrhea this lowered propulsion permits a physiologic absorption of excess fluid, lessens frequency and fluidity of stools and gives safe, selective, symptomatic control of most diarrheas. Concurrently, it conserves electrolytes and controls cramping.

Investigators have found the antidiarrheal action of Lomotil not only "excellent"[2] but "efficacious[3] where other drugs have failed. . . ."

DOSAGE: For *adults* the recommended initial dosage is two tablets (2.5 mg. each) three or four times daily, reduced to meet the requirements of each patient as soon as the diarrhea is under control. Maintenance dosage may be as low as two tablets daily. For *children* daily dosages, in divided doses, range from 3 mg. (½ teaspoonful three times daily) for infants 3 to 6 months to 10 mg. (1 teaspoonful five times daily) for children 8 to 12 years. Lomotil is supplied as unscored, uncoated white tablets of 2.5 mg. and as liquid containing 2.5 mg. in each 5 cc. A subtherapeutic amount of atropine sulfate (0.025 mg.) is added to each tablet and each 5 cc. of the liquid to discourage deliberate overdosage. The recommended dosage schedules should not be exceeded.

NOTE: Lomotil is an exempt narcotic preparation.

Descriptive literature and directions for use detailed in Physicians' Product Brochure No. 81 available from G. D. Searle & Co., P. O. Box 5110, Chicago 80, Illinois.

1. Demeulenaere, L.: Action du R 1132 sur le transit gastrointestinal, Acta Gastroent. Belg 21·674·680 (Sept -Oct.) 1958.
2. Kasich, A M : Treatment of Diarrhea in Irritable Colon, Including Preliminary Observations with a New Antidiarrheal Agent, Diphenoxylate Hydrochloride (Lomotil), Amer. J. Gastroent. 35 46-49 (Jan.) 1961.
3. Weingarten, B.: Weiss, J., and Simon, M.: A Clinical Evaluation of a New Antidiarrheal Agent, Amer. J Gastroent. 35 628-633 (June) 1961.

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12:18
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In acne—24-hour-a-day skin care with antibacterial pHīsoHex®

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In acne, pHisoHex, antiseptic detergent, provides *continuous* antibacterial action against the infection factor. With exclusive, frequent use, pHisoHex builds up an effective antibacterial film on the skin that resists rinsing—lasts from wash to wash. pHisoHex augments any other therapy of acne.

When pHisoHex was used for washing by 42 patients with acne, "the results were uniformly encouraging. . . ."[1] "No patient failed to improve."[1]

pHisoHex cleans the skin of acne patients better than soap because it is forty per cent more surface active. It is a powerful emulsifier of oil, an action particularly beneficial in acne. Moreover, it cleans the orifices of the sebaceous glands, sweat glands and hair follicles more rapidly and more thoroughly than soap. pHisoHex lacks the potentially harmful qualities of soap. It is nonalkaline, nonirritating and hypoallergenic.[2]

For acne, prescribe pHisoHex—and get improved results.

pHisoAc® Cream dries, peels and masks lesions. Use it with pHisoHex washings to help prevent comedones, pustules and scarring. Contains colloidal sulfur 6 per cent, resorcinol 1.5 per cent and hexachlorophene 0.3 per cent.

pHisoHex is available in unbreakable squeeze bottles of 5 oz. and 1 pint—and in combination package with pHisoAc Cream.

1. Hodges, F. T.: *GP* 14:86, Nov., 1956.
2. Guild, B. T.: *Arch. Dermat.* 51:391, June, 1945.

Winthrop LABORATORIES
New York 18, N.Y.

(1665M)

you had to make your own children's multivitamins

hances are you'd try to make them very much like our new Vi-Daylin® Chewable with Entrapped Flavo
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In recognition of recent medical thinking, we've reduced the vitamin D in our formula from 20 mcg. (800 units) to 10 mcg. (400 units). At the same time, we've increased the vitamin C content from 40 mg. to 50 mg. per tablet and per 5-cc. lemon-candy teaspoonful.

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Vitamin A (3000 units)	0.9 mg.
Thiamine Mononitrate	1.5 mg.
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Cobalamin (B_{12})	3 mcg.
Nicotinamide	10 mg.
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In quantities of 100 tablets our new Chewable costs less than 4¢ a tablet and the normal dosage is one tablet daily. No financial hardship for your patients when you prescribe or recommend Vi-Daylin.

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New Vi-Daylin Chewable tablets are football shaped. This shape got a high degree of acceptance in our taste-tests and seems to have an intrinsic interest for children. The orange color ties in with the mild, sweet citrus flavor. And the wide-mouthed new bottle looks handsome on the table.

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Won't you taste-test new Vi-Daylin Chewable multivitamins yourself? We're certain you'll be pleasantly surprised at their sweet good taste. They're the candy-flavored multivitamins with *entrapped flavor* . . . little folks taste the candy flavor, never the vitamins.

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*Schaefer, L. E.: Clin. Med. 8:1343, 1961.

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Golf today, fishing tomorrow (retired but not easily tired)

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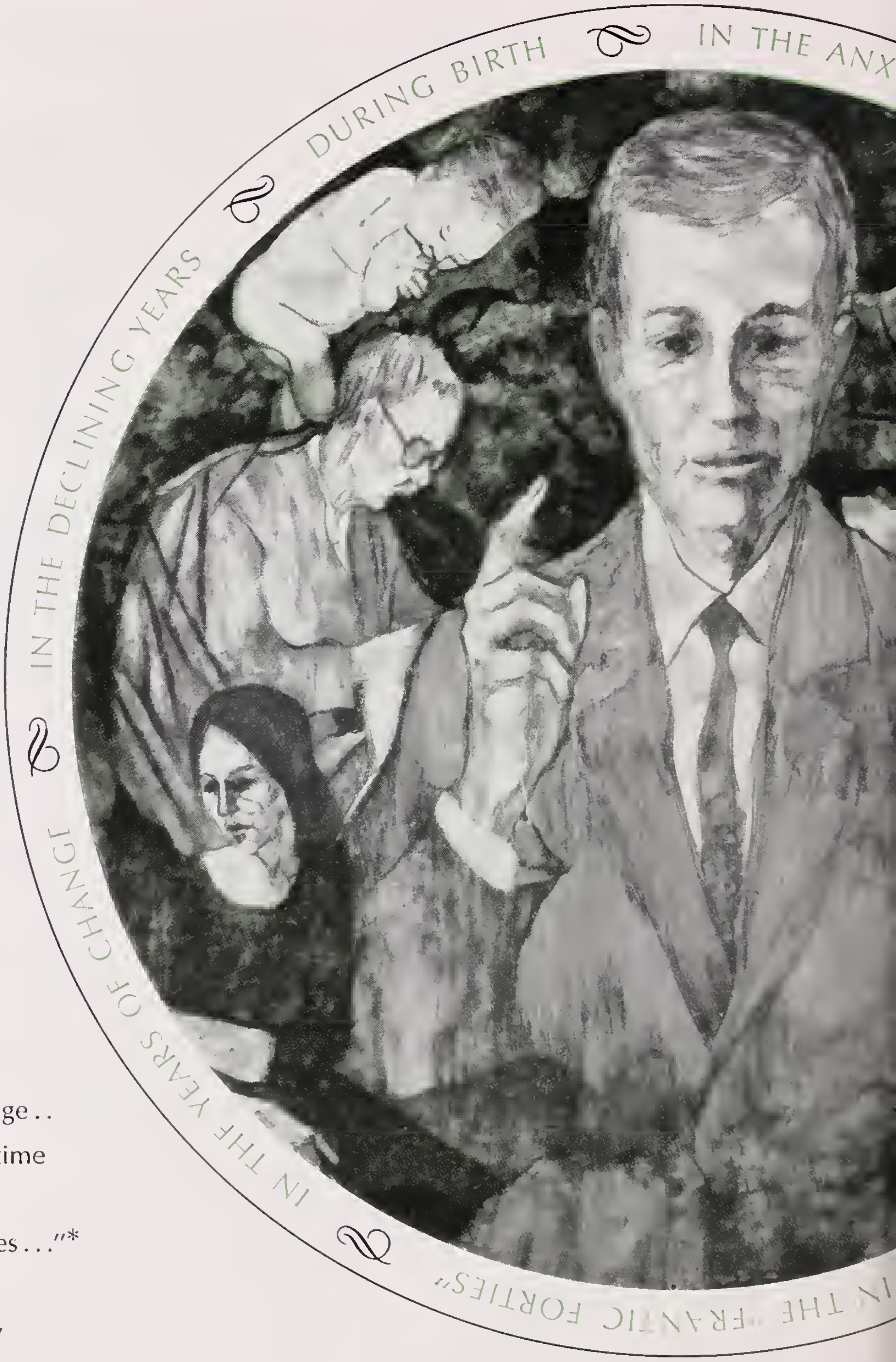
1. Tainter, M. L., and Buchanan, O. H., Ann. N. Y. Acad. Sc. 58:438, 1954.
2. Pinparker, B. D., Panstian, F. F., Roth, J. L. A. and Bockus, H. L., Gastroenterology 40:397, 1961.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IN THE ANX
IN THE DECLINING YEARS
IN THE YEARS OF CHANGE
IN THE "FRANTIC FORTIES"

"All the world's a stage..
And one man in his time
plays many parts,
His acts being seven ages..."*

**As You Like It*, Act II, Sc. 7

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IN PREGNANCY AND

through all seven ages of man

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effective anxiety control with a wide margin of safety

in the "frantic forties"—For many patients in their "frantic forties," the pace never slackens—may even accelerate—while tensions multiply and physical resources dwindle. Out of this seedbed of stresses and anxieties grow much of the alcoholism, psychosomatic illness, and sympathetic overactivity of the middle years.

In each of these areas, VISTARIL is often effective alone or as an adjunct to other therapy. For example, in his series of 67 patients, King[1] found that 62 showed remission of anxiety, tension, nervousness and insomnia, as well as alleviation of symptoms associated with various functional and psychophysiological disturbances. He concludes that VISTARIL is well suited for use in the practice of internal medicine.

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1. King, J. C.: Int. Rec. Med. 172:669, 1959. 2. Weiner, L. J., and Bockman, A. A.: Sci. Exhibit, A.M.A., Ann. Meet., New York City, June 26-30, 1961.

VISTARIL CAPSULES AND ORAL SUSPENSION
HYDROXYZINE PAMOATE

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See "IN BRIEF" on the next page.

IN BRIEF VISTARIL®

VISTARIL, hydroxyzine pamoate (oral) and hydroxyzine hydrochloride (parenteral solution), is a calming agent unrelated chemically to phenothiazine, reserpine, and meprobamate.

VISTARIL acts rapidly in the symptomatic treatment of a variety of neuroses and other emotional disturbances manifested by anxiety, apprehension, or fear—whether occurring alone or complicating a physical illness. The versatility of VISTARIL in clinical indications is matched by wide patient range and a complete complement of dosage forms. The calmative effect of VISTARIL does not usually impair discrimination. No toxicity has been reported with the use of VISTARIL at the recommended dosage, and it has a remarkable record of freedom from adverse reactions.

INDICATIONS: VISTARIL is effective in premenstrual tension, the menopausal syndrome, tension headaches, alcoholic agitation, dentistry, and as an adjunct to psychotherapy. It is recommended for the management of anxiety associated with organic disturbances, such as digestive disorders, asthma, and dermatoses. Pediatric behavior problems and the emotional illnesses of senility are also effectively treated with VISTARIL.

ADMINISTRATION AND DOSAGE: Dosage varies with the state and response of each patient, rather than with weight, and should be individualized for optimum results. The usual adult oral dose ranges from 25 mg. t.i.d. to 100 mg. q.i.d. Usual children's oral dose: under 6 years, 50 mg. daily in divided doses; over 6 years, 50-100 mg. daily in divided doses.

Parenteral dosage for adult psychiatric and emotional emergencies, including acute alcoholism: I.M.—50-100 mg. Stat., and q.4-6h., p.r.n. I.V.—50 mg. Stat., maintain with 25-50 mg. I.V. q.4-6h., p.r.n.

SIDE EFFECTS: Drowsiness may occur in some patients; if so, it is usually transitory, disappearing within a few days of continued therapy or upon reduction of dosage. Dryness of mouth may be encountered at higher doses.

PRECAUTIONS: Drowsiness may occur in some patients. The potentiating action of hydroxyzine should be taken into account when the drug is used in conjunction with central nervous system depressants. Do not exceed 1 cc. per minute I.V. Do not give over 100 mg. per dose I.V. Parenteral therapy is usually for 24-48 hours, except when, in the judgment of the physician, longer-term therapy by this route is desirable.

SUPPLIED: VISTARIL *Parenteral Solution* (hydroxyzine hydrochloride)—10 cc. vials, 25 mg. per cc. and 50 mg. per cc.; 2 cc. ampules, 50 mg. per cc. VISTARIL *Capsules* (hydroxyzine pamoate)—25, 50, and 100 mg. VISTARIL *Oral Suspension* (hydroxyzine pamoate)—25 mg. per 5 cc. teaspoonful.

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NATIONAL AND REGIONAL MEETINGS

April 26–28: American Gastroenterological Association. Hotel Roosevelt, New York. Address: Dr. Wade Volwiler, *Executive Secretary*, c/o Department of Medicine, University of Washington, Seattle 5, Wash.

April 29: American Federation for Clinical Research. Haddon Hall, Atlantic City, N. J. Address: Mr. James E. Bryan, *Executive Secretary*, 250 West 57th Street, New York 19, N. Y.

April 30–May 2: American Academy of Pediatrics. Hotel Statler-Hilton, New York. Address: Dr. E. H. Christopherson, *Executive Director*, 1801 Hinman Avenue, Evanston, Ill.

May 5–6: Annual Meeting of The Academy of Psychoanalysis. Park Plaza Hotel, Toronto, Canada. Address: Dr. Joseph H. Merin, *Secretary*, 125 East 65th Street, New York 21, N. Y.

May 9–13: Student American Medical Association. Mayflower Hotel, Washington. Address: Mr. Russell F. Staudacher, Executive Director, 430 North Michigan Avenue, Chicago 11, Ill.

May 21–23: Annual Meeting of the American Thoracic Society. Deauville Hotel, Miami Beach, Fla. Address: National Tuberculosis Association, 1790 Broadway, New York 19, N. Y.

June 21–24: 63rd Annual Meeting of American Therapeutic Society. Sheraton-Blackstone Hotel, Chicago. Address: Dr. Oscar B. Hunter, Jr., *Secretary*, 915 19th Street, N.W., Washington 6, D. C.

June 21–25: 28th Annual Meeting of American College of Chest Physicians. Morrison Hotel, Chicago. Address: Mr. Murray Kornfeld, *Executive Director*, 112 East Chestnut Street, Chicago 11, Ill.

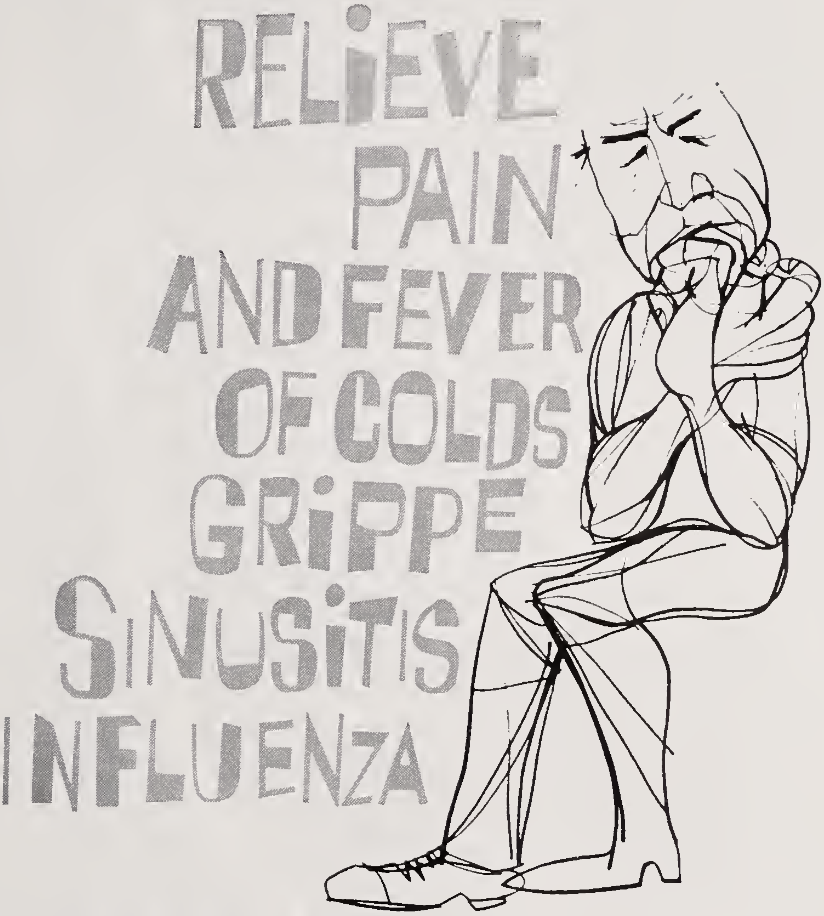
June 23: Annual Meeting of the American Association for the Study of Headache. Palmer House, Chicago. Address: Dr. Lester S. Blumenthal, Committee on Publicity and Public Relations, 5315 Connecticut Avenue, N.W., Washington 15, D. C.

June 24–28: 111th Annual Meeting of the American Medical Association. Palmer House, Chicago. Address: Dr. F. J. L. Blasingame, *Executive Vice President*, 535 North Dearborn Street, Chicago 10, Ill.

September 4–8: World Forum on Syphilis and Treponematoses. Sheraton-Park Hotel, Washington. Address: William Griggs, Communicable Disease Center, U. S. Public Health Service, Atlanta, Ga.

September 9–15: 12th International Congress of Dermatology. Shoreham and Sheraton-Park Hotels, Washington. Address: Dr. Naomi M. Kanof, Chairman, Local Committee on Arrangements, 1150 Connecticut Avenue, N.W., Washington 6, D. C.

October 15–17: Second Interstate Scientific Assembly. Sheraton-Park Hotel, Washington. Address: Mr. Theodore Wiprud, 1718 M Street, N.W., Washington 6, D. C.



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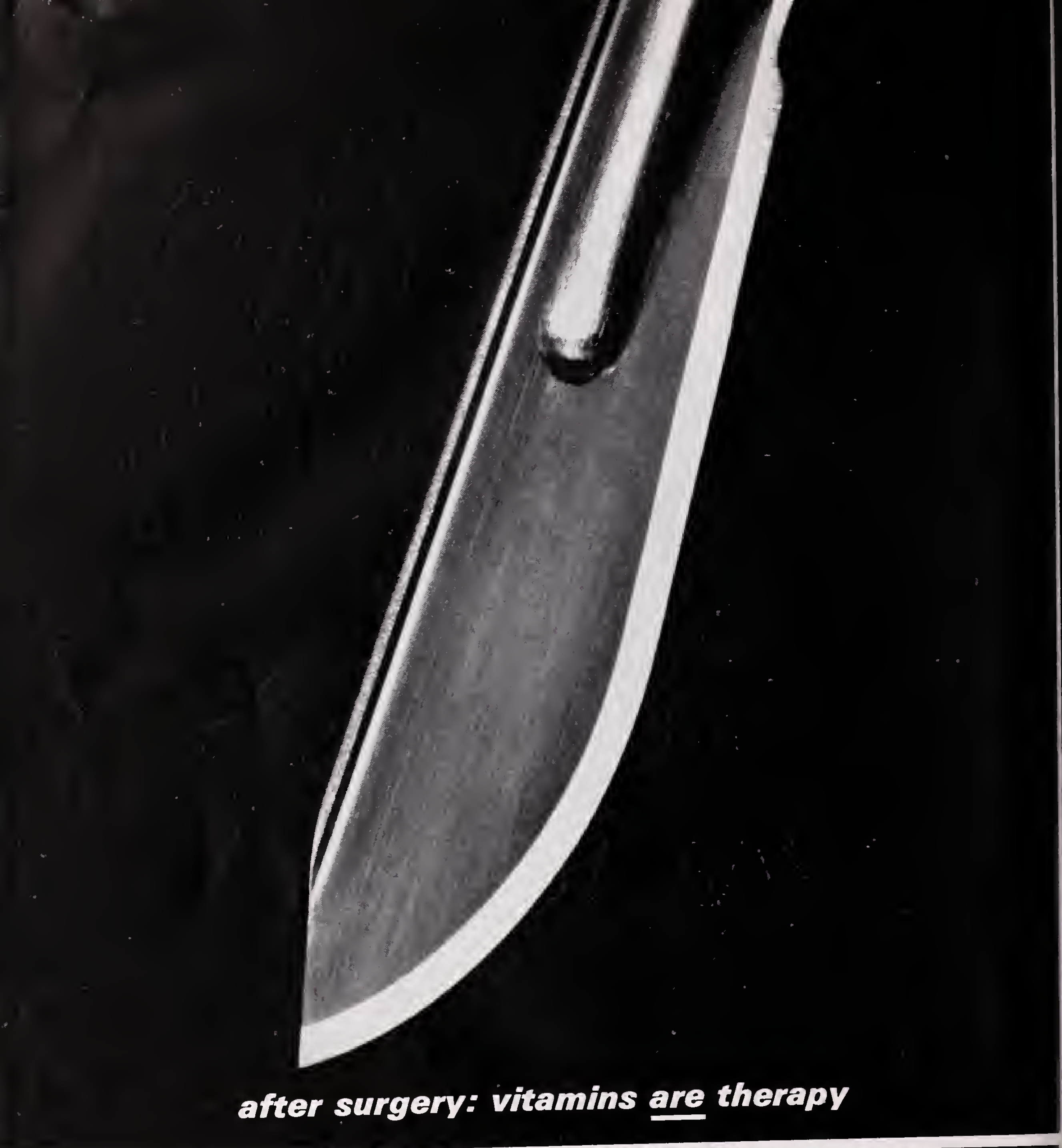

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Textbook after textbook, article after article and experience in practice after practice consistently have demonstrated the capacity of Demerol to produce satisfactory analgesia without weakening the intensity of uterine contractions. In fact, many observers have reported an apparent shortening of labor, particularly in the primipara.

Because it is well tolerated by both the mother and the newborn child, Demerol is generally considered one of the safest analgesics for use in obstetric practice.

In addition to satisfactory analgesia, a moderate sedative effect is obtained with large doses, and sleep is frequently induced between pains.

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In 13,000 deliveries reported by 158 physicians, "Demerol was unquestionably the narcotic of choice during labor." *(Questionnaire, The Maternal and Child Welfare Committee, South Dakota State M. A., 1958)*[1]

"Demerol is our drug of choice for analgesia during labor." *(Posner, Fielding and Posner, Harlem Hospital, New York City)*[2]

Demerol in combination with scopolamine "... offers the best means of securing analgesia and amnesia in labor with the least risk to the mother and child. ... Often one is amazed at the manner in which the cervix melts away under this form of medication." *(Beck and Rosenthal, State University of New York)*[3]

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Demerol with Scopolamine

"When combined with scopolamine, it [Demerol] can produce satisfactory amnesia-analgesia in over 90% of the mothers during labour."

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(Beck and Rosenthal)[3]

Demerol is "...an analgesic drug which relieves pain about as well as does morphine, and it has in addition an antispasmodic action which makes it a good preparation for use during labor.... It may be given alone but its effect is enhanced when it is used in combination with scopolamine, and the resultant amnesic effect is excellent."

(Titus, Pittsburgh)[5]

SIDE EFFECTS AND CONTRAINDICATIONS: Demerol hydrochloride is generally well tolerated and nontoxic in therapeutic doses. Side effects occur more frequently in ambulatory patients (who should therefore be specially cautioned) than in those confined to bed. Dizziness is the most common reaction. Nausea or vomiting occurs less frequently than after administration of morphine. Flushing of the face, sweating and dryness of the mouth are sometimes noted. More severe reactions are characterized by great weakness, syncope, profuse perspiration, marked dizziness, and nausea and vomiting. They usually can be prevented if the patient lies down promptly at the onset of side effects. Tolerance to side effects usually develops quickly if medication is continued in small doses (25 mg.). In contrast to morphine, respiratory depression occurs infrequently. However, in patients with lesions that cause increased intracranial pressure, respiratory depression has been noted; therefore, the drug is considered to be contraindicated in such persons.

When Demerol with Scopolamine is used, idiosyncrasy to scopolamine may be encountered occasionally, producing the paradoxic effect of excitement, restlessness, hallucinations and delirium instead of sedation and amnesia. In addition, edema of the uvula, glottis and lips may be encountered occasionally in extremely hypersensitive patients.

Nalorphine (Nalline®) or levallorphan (Lorfan®) are considered to be specific antidotes against respiratory depression which may result from overdosage or unusual sensitivity to narcotics including Demerol.

1. Ranney, Brooks: *South Dakota J. Med. & Pharm.* 11:479, Dec., 1958.
2. Posner, L. B.; Fielding, W. L., and Posner, A. C.: *Obst. & Gynec.* 2:81, July, 1953.
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4. Hershenson, B. B., and Reid, D. E.: *Bull. Narcotics* 8:36, July-Sept., 1956.
5. Titus, Paul: The Management of Obstetric Difficulties, ed. 5, St. Louis, C. V. Mosby Co., 1955, p. 617.

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50 mg. per ml.: Ampuls of 0.5, 1, 1.5 and 2 ml. (25 to 100 mg.); vials of 10 and 30 ml.; disposable syringes of 1 ml.

75 mg. per ml.: Disposable syringes of 1 ml.

100 mg. per ml.: Ampuls of 1 ml.; vials of 20 ml.; disposable syringes of 1 ml.

pH of Demerol 5% and 10% solutions in ampuls and vials is adjusted between 4.5 and 6.0 with sodium hydroxide or hydrochloric acid. Multiple dose vials of Demerol solution also contain metacresol 0.1 per cent as preservative.

Demerol with Scopolamine (50 mg. of Demerol HCl and 1/300 grain of scopolamine HBr per ml.): Ampuls of 2 ml.; vials of 30 ml. pH is adjusted between 4 and 5 with sodium hydroxide or hydrochloric acid.

DEMEROL Hydrochloride / *for Oral Use:*

Demerol hydrochloride tablets 50 mg.

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Demerol hydrochloride elixir (50 mg. per 5 ml. teaspoon)—Pleasant banana flavor, nonalcoholic. Especially useful for children.

A.P.C. with Demerol tablets—For potentiated action each tablet contains: 200 mg. (3 grains) of aspirin, 150 mg. (2½ grains) of phenacetin, 30 mg. (½ grain) of caffeine, and 30 mg. (½ grain) of Demerol hydrochloride.

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when occupational allergies strike

CONTINUOUS 10-12 HOUR ACTION

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parabromdylamine (brompheniramine) maleate 12 mg.

reliably relieve the symptoms...seldom affect alertness

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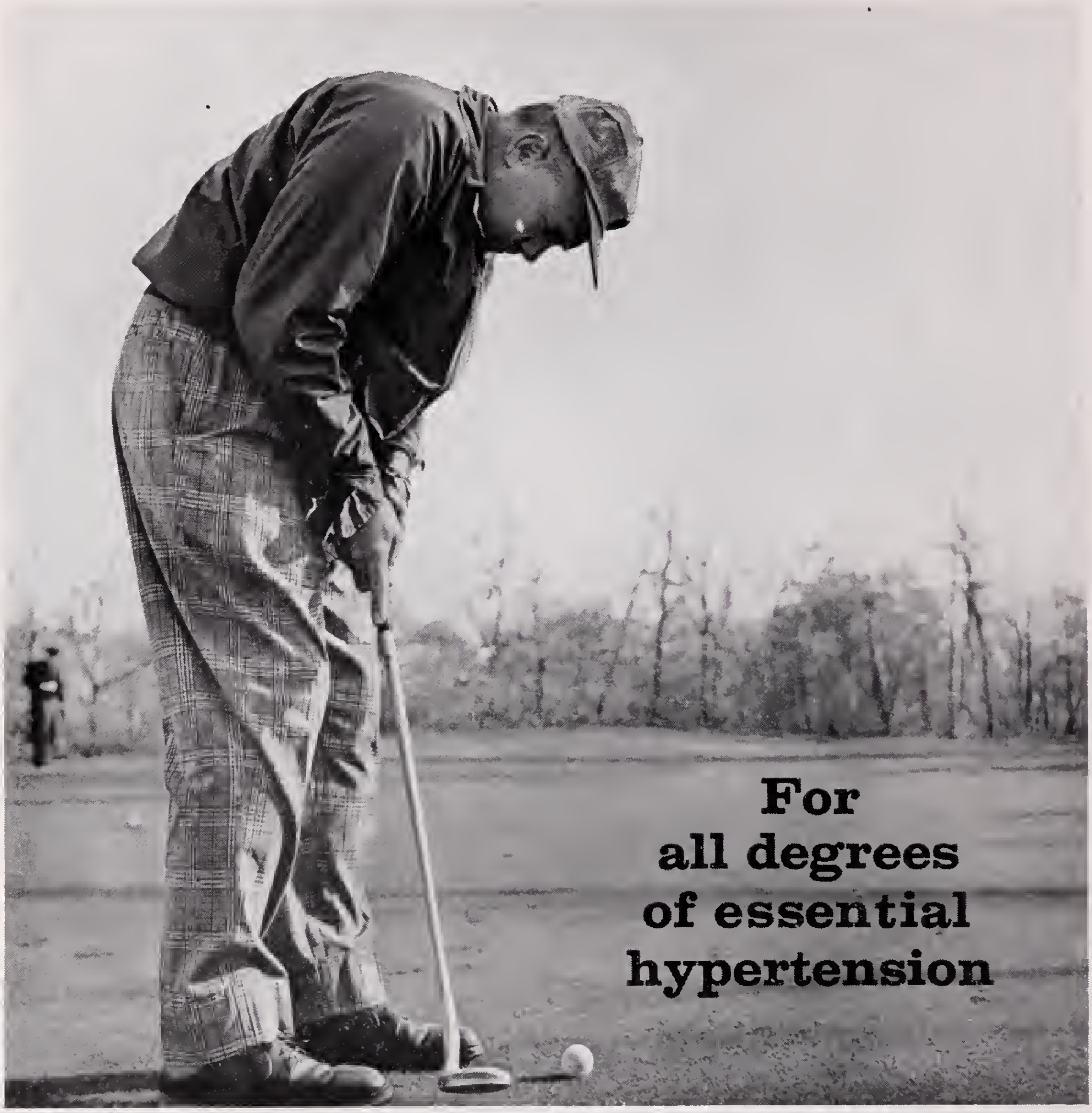

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Rautrax-N decreases blood pressure for almost all patients with mild, moderate or severe essential hypertension. Rautrax-N also offers a new sense of relaxation and well-being in hypertension complicated by anxiety and tension. And in essential hypertension with edema and/or congestive heart failure, Rautrax-N achieves diuresis of sodium and chloride with minimal effects on potassium and other electrolytes.

Rautrax-N combines Raudixin (antihypertensive-tranquilizer) with Naturetin c̄ K (antihypertensive-diuretic) for greater antihypertensive effect and greater effectiveness in relief of hypertensive symptoms than produced by either component alone. Rautrax-N is also flexible (may be prescribed in place of Raudixin or Naturetin c̄ K) and economical (only 1 or 2 tablets for maintenance in most patients).

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[†]Hutchison J. C.: Current Therap. Res. 2:487 (Oct.) 1960.

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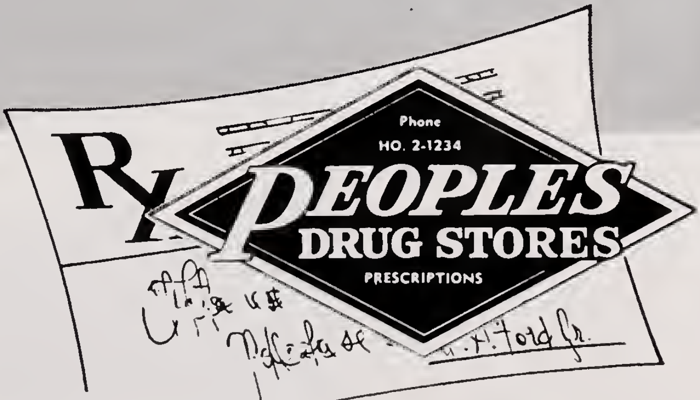
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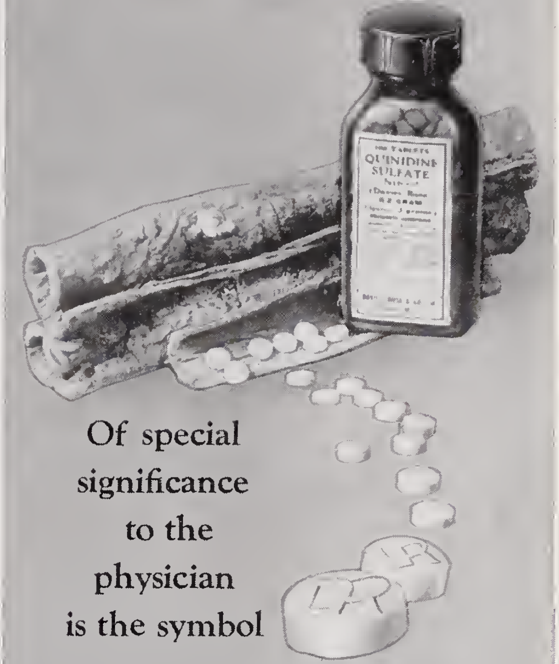

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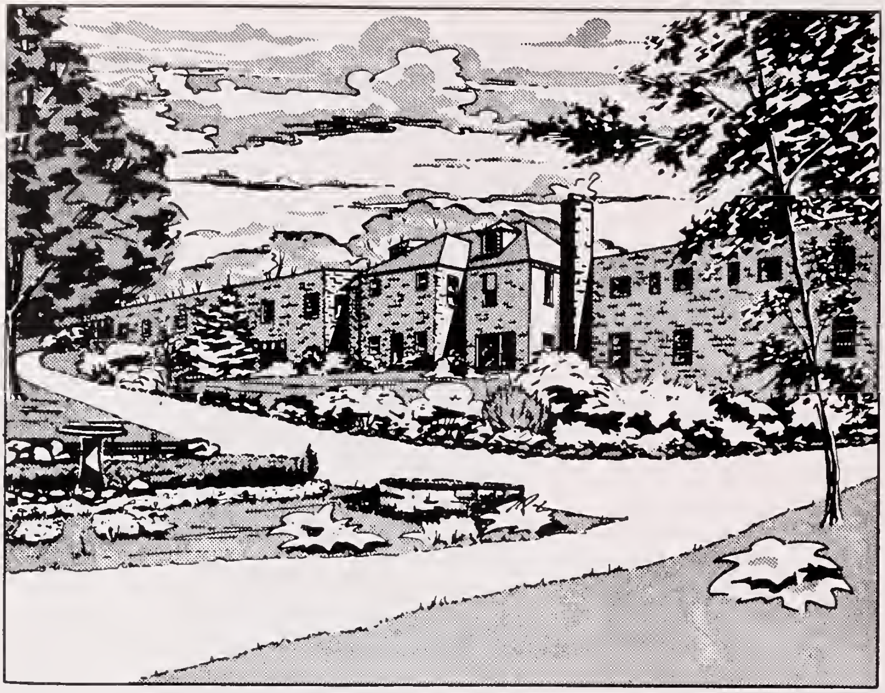

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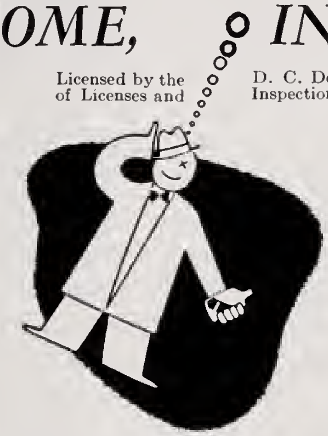

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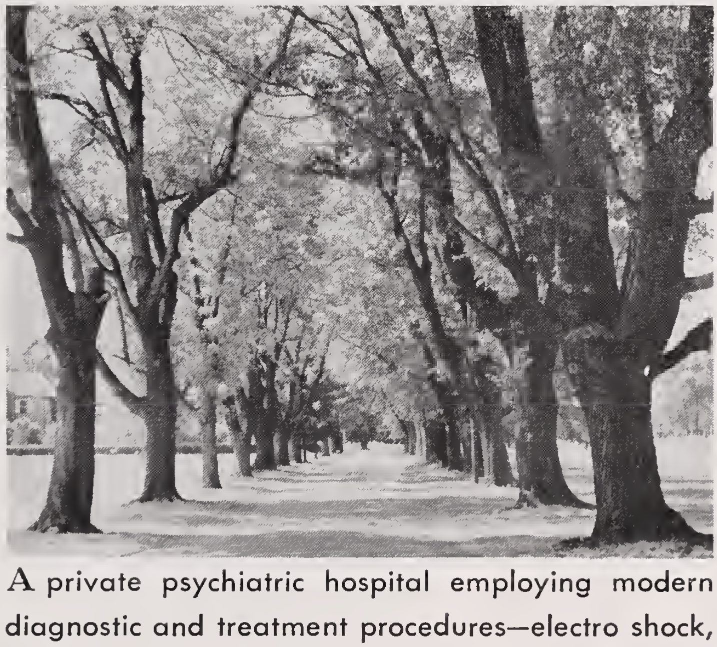

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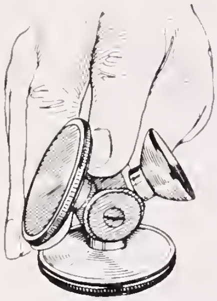

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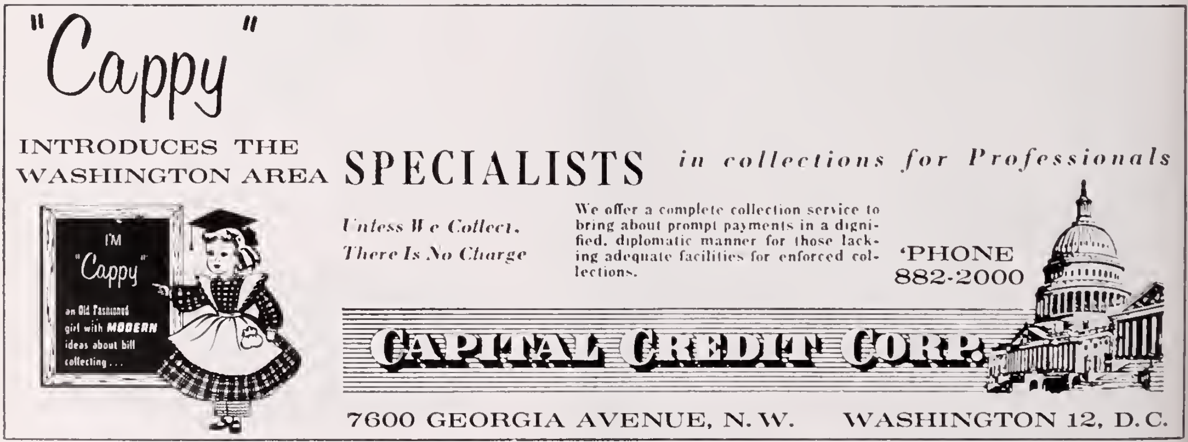
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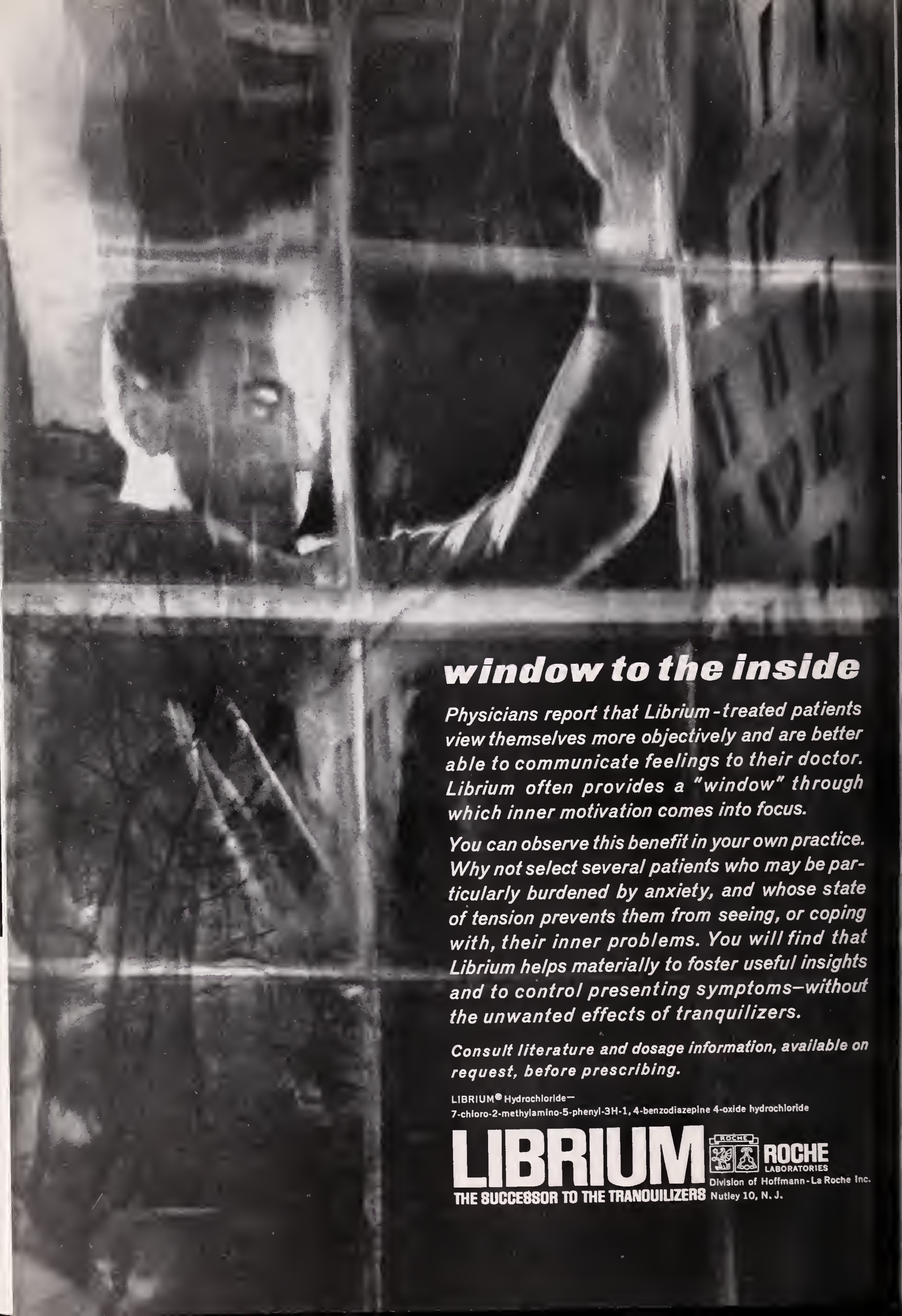

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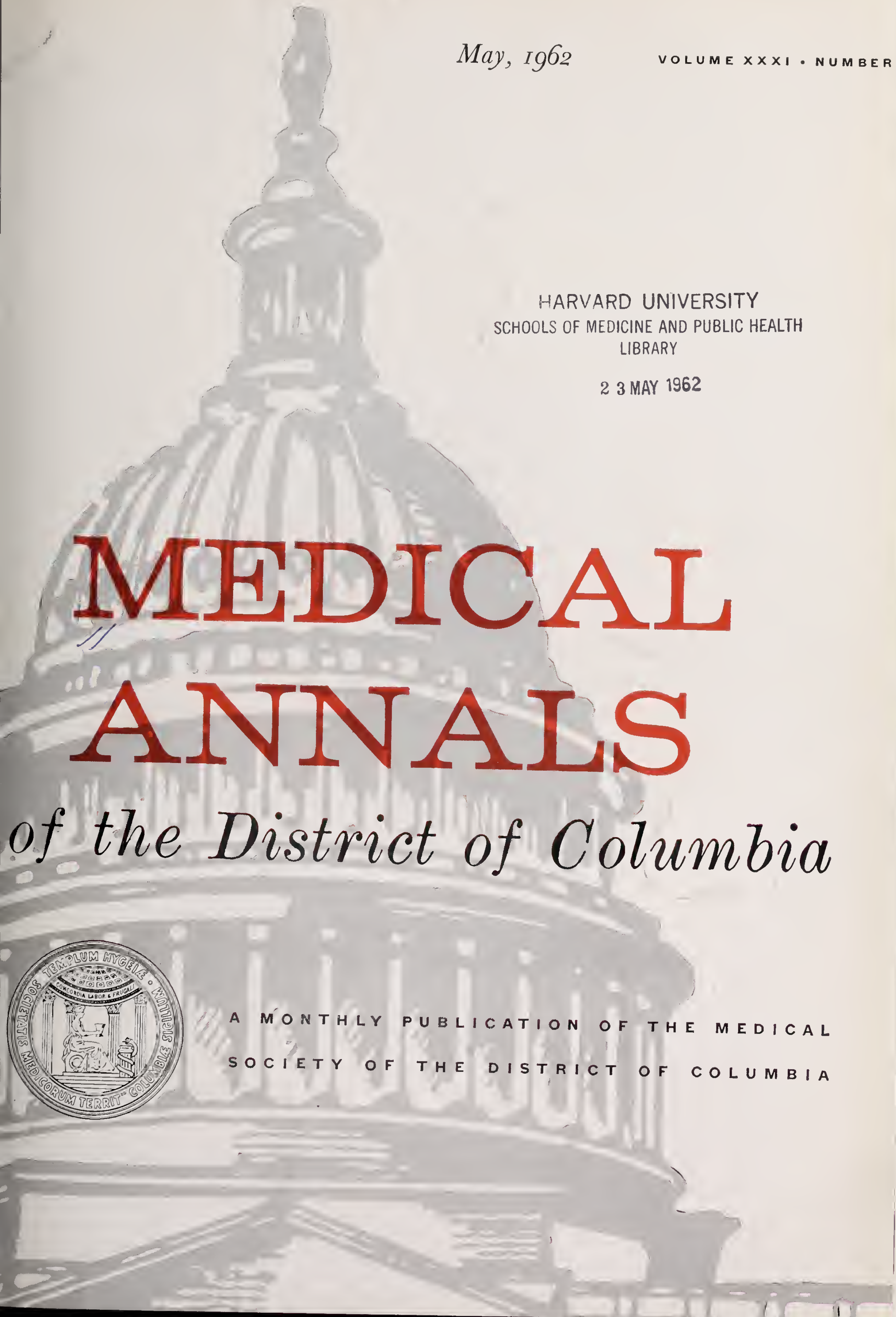

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REFERENCES: (1) Roseman, E.: Neurology **11***:912, 1961. (2) Bray, P. F.: Pediatrics* **23***:151, 1959. (3) Chao, D. H.; Druckman, R., & Kellaway, P.: Convulsive Disorders of Children, Philadelphia, W. B. Saunders Company, 1958, p. 120. (4) Crawley, J. W.: M. Clin. North America* **12***:317, 1958. (5) Livingston, S.: The Diagnosis and Treatment of Convulsive Disorders in Children, Springfield, Ill., Charles C Thomas, 1954, p. 190. (6) Ibid.: Postgrad. Med.* **20***:584, 1956. (7) Merritt, H. H.: Brit. M. J.* **1***:666, 1958. (8) Carter, C. H.: Arch. Neurol. & Psychiat.* **79***:136, 1958. (9) Thomas, M. H., in Green, J. R., & Steelman, H. F.: Epileptic Seizures, Baltimore, The Williams & Wilkins Company, 1956, pp. 37-48. (10) Goodman, L. S., & Gilman, A.: The Pharmacological Basis of Therapeutics, ed. 2, New York, The Macmillan Company, 1955, p. 187.*

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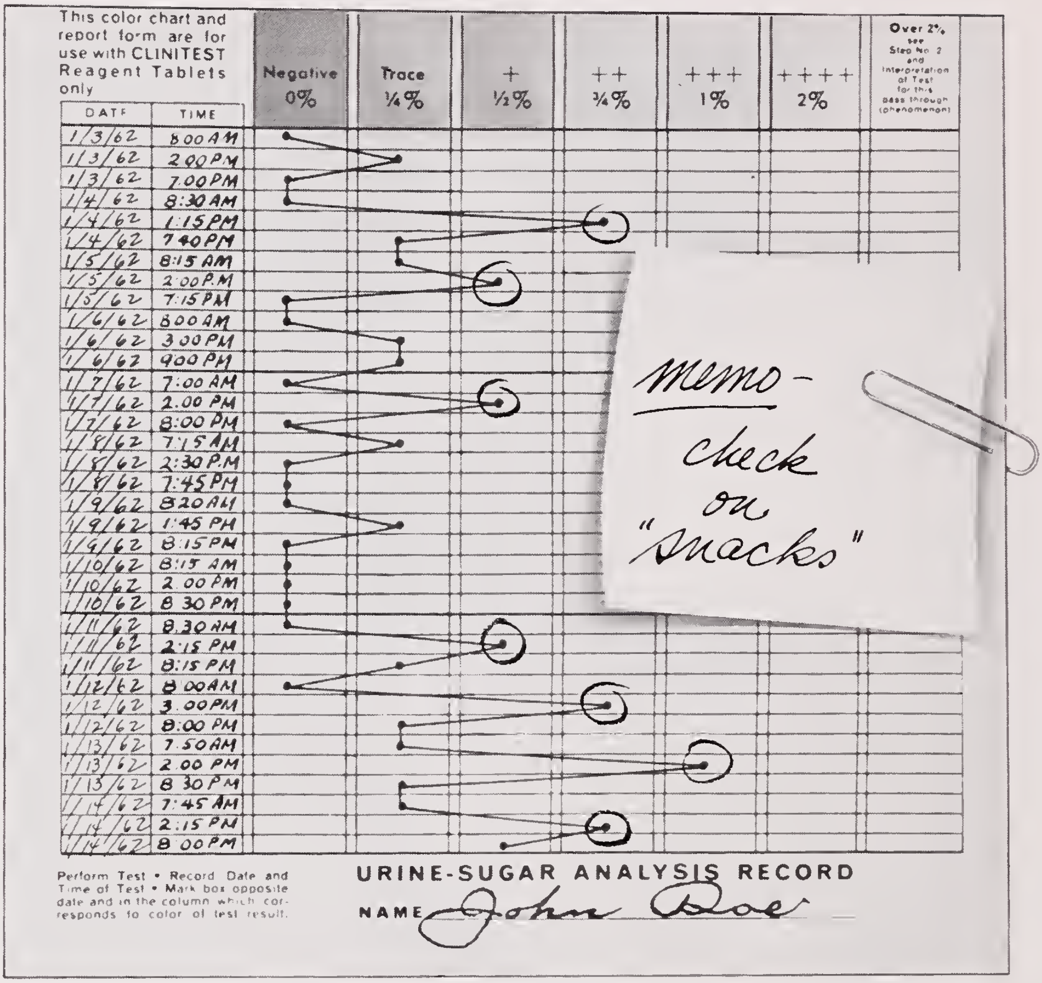

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1/4/62	8:30 AM	●						
1/4/62	1:15 PM				◉			
1/4/62	7:40 PM		●					
1/5/62	8:15 AM		●					
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1/5/62	7:15 PM	●						
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1/9/62	1:45 PM		●					
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1/10/62	8:15 AM	●						
1/10/62	2:00 PM	●						
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1/12/62	3:00 PM				◉			
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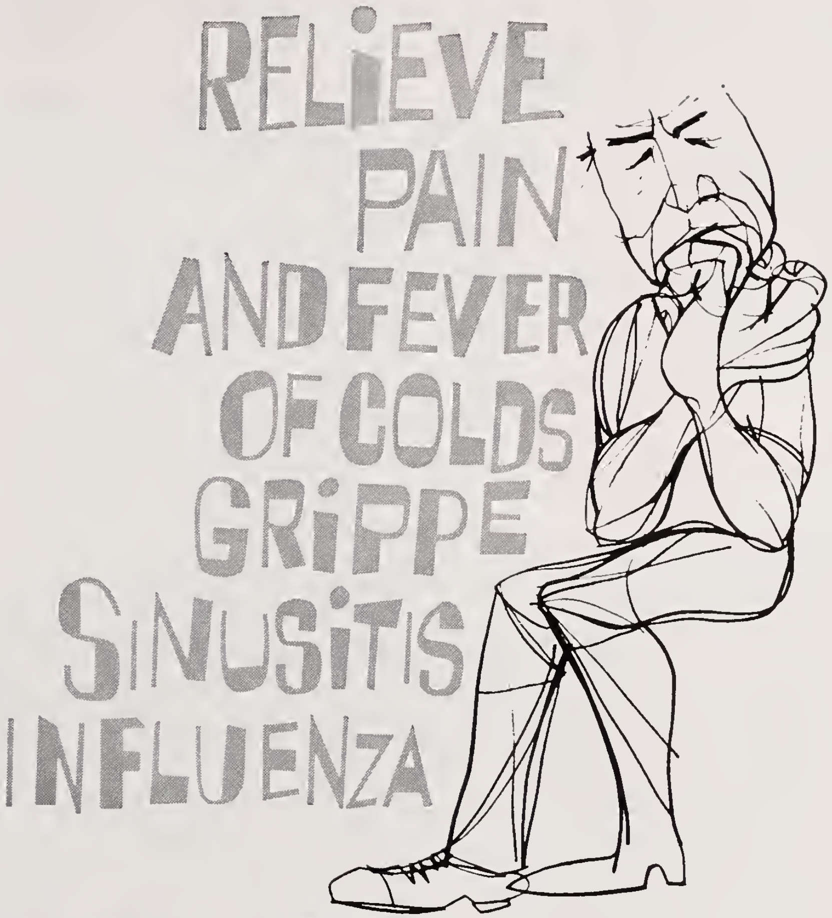

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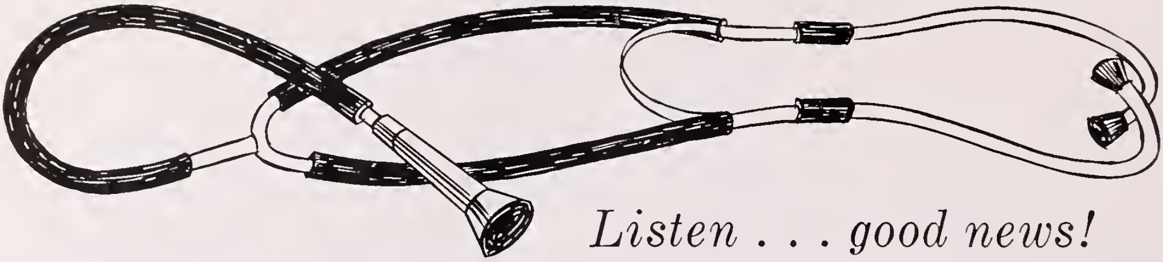

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BOOK REVIEWS

Hemodynamics of Aortic and Mitral Valve Disease: Transbronchial Studies. ALVIN J. GORDON, M.D., PAUL A. KIRSCHNER, M.D., AND HOWARD L. MOSCOVITZ, M.D. Price, $5.75. Pp. 136, with 94 illustrations. New York: Grune, 1961.

The authors present a detailed analysis of their experience with 93 transbronchial left-heart catheterizations from 1956 to 1960. The monograph is well written and well illustrated, with data obtained from patients with major valve lesions. Arrangement of the figures with respect to the text is good. The adequate legends permit one to study the 94 figures without referring to the text. The references are well chosen and pertinent.

The book serves several useful purposes. It clearly relates for physicians not working in this field some of the important new techniques and concepts involved in evaluating patients with valvular heart disease. It presents practical details of performance of techniques and interpretation of data by one laboratory group that should be helpful to others doing similar work.

Newer approaches to study of left-heart hemodynamics have superseded the transbronchial technique in most instances. While the latter development reflects the rapidity of change in this area of medical knowledge, it does not detract from the current usefulness of the monograph.

GEORGE A. KELSER, JR., M.D.

Providence Centennial Book 1861–1961. Issued to Commemorate the First One Hundred Years in the history of a community hospital in the Nation's Capital. Providence Alumin Publication Committee: SAMUEL ZOLA, M.D., JOHN A. LONG, M.D., AND PHILIP A. CAULFIELD, M.D.

The Providence Alumni Publication Committee is responsible for this beautifully illustrated and highly interesting volume. It contains not only the record of Providence Hospital's century of service to the Nation's Capital but much of historical interest, especially during the Civil War period.

One cannot review this book without deep admiration for the Sisters of Charity who magnificently dedicated their lives to the care of the sick. It can be truly said of them that they served far beyond the call of duty.

The book describes the early days of the institution and the services performed by the Sisters from the time of the Civil War down through World Wars I and II. The section devoted to the building program of Providence is an inspiring one. Of particular interest to physicians is the chapter headed "Doctors of Providence Hospital." Here is a catalog of the distinguished physicians of today and yesterday.

Again, congratulations to the Publication Committee are in order. Whether one has a direct interest in Providence Hospital or not, this would be a valuable addition to one's library.

T. W.

Clinical Obstetrics. BENJAMIN TENNEY, M.D., AND BRIAN LITTLE, M.D., F.R.C.S.(C). Price, $8.50. Pp. 440, with 44 illustrations. Philadelphia: Saunders, 1961.

This latest book, "Clinical Obstetrics," from the group at Harvard is a very worthwhile and down-to-earth textbook, especially on the resident and practitioner level. It is not a book which I feel would be particularly good for the medical student unless he is quite interested in obstetrics and has first a good understanding of basic obstetrics from his usual textbook, Eastman. However, this book is well illustrated, with good graphs, is precise and concise, and certainly contains all of the latest data except the use of Tocasamine for the induction of labor.

The treatise handles well all of the old wives' tales and taboos about pregnancy. There are several good chapters on normal pre- and postnatal care, the pathology of pregnancy, especially pregnancy with diabetes mellitus, hypertensive cardiovascular disease with pregnancy, and heart disease with pregnancy. It gives good classifications, excellent etiology, physiology and pathology of the conditions, and a very good summary of proper and adequate treatment.

The chapters on pelvic tumors in pregnancy, hydatidiform mole and choriocarcinoma are quite up-to-date and filled with interesting and new data. At one point, in connection with the induction of labor, the authors do feel that relaxin is of value. With this I totally disagree, but nowhere else would I differ greatly.

The chapters on analgesia anesthesia, both conduction and inhalation, the management of abnormal presentations, and cesarean section are well done and well outlined. The last chapter on anomalies and prenatal influence and fetal development is quite excellent. There are good diagrams of the chromosome variances with mongoloid idiots and Turner's syndrome, Klinefelter's syndrome, and good photographs of Barr bodies. The authors also treat well the effect of radiation, both routine chest films and X-ray pelvimetry, and the advent of radioactive isotopes and their effect on the pregnant patient.

All things considered, this is an excellent book for the clinical obstetrician.

WILLIAM H. COOPER, M.D.

(*Continued on page 16*)

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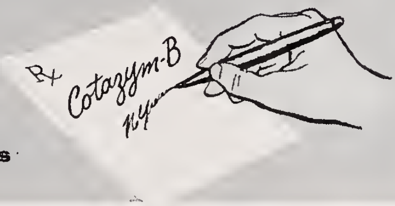

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Book Reviews

(Continued from page 14)

Ciba Foundation Study Group No. 9. Progesterone and the Defence Mechanism of Pregnancy. G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Margaret P. Cameron, M.A., Editors for the Ciba Foundation. Pp. 108, with 22 illustrations. Boston: Little, 1961.

"Progesterone and the Defence Mechanism of Pregnancy" is a scholarly review of basic progesterone investigation and research put together in a small booklet in honor of Dr. G. W. Corner. It is a composite of laboratory experiments alternating with seminar-type questions and answers by scientists in the United States, Great Britain, Germany and Japan on basic research of the physiology of reproduction. The in vivo and in vitro experiments suggest that progesterone localized in the uterus assists in the maintenance of pregnancy until delivery by increasing the stability of the myometrial membrane as well as the threshold to stimulus.

Csapo concludes that the onset of labor cannot be explained by the classic theory of progesterone withdrawal but rather by the ineffectiveness of the progesterone block.

This booklet is not easy reading. It is of limited value to the clinician. Actually, it is an interim report for research centers only.

Robert J. Sherman, M.D.

Ciba Foundation Study Group No. 10. Biological Activity of the Leucocyte. G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A., Editors for the Ciba Foundation. Pp. 120, with 17 illustrations. Boston: Little, 1961.

This volume is a transcript of a one-day symposium on the biological activity of white cells, held March 7, 1961, under the auspices of the Ciba Foundation. The short papers are followed by discussion and questions by the study group. The result is a summary of current research and understanding of the function and metabolism of leukocytes. Because of the time limit imposed by a one-day conference, the communications are limited. However, numerous references are included in the text for those who wish to delve further into some of the topics.

Presented are studies on lymphocytes, granulocytes, and other leukocytes using morphologic, metabolic, and isotopic techniques. The characteristics of the material presented make this book most suited for research workers and specialists in the field rather than for the clinician.

Paul R. McCurdy, M.D.

Ciba Foundation Symposium on Somatic Stability in the Newly Born. G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A., Editors for the Ciba Foundation. Price, $10.00. Pp. 393, with 63 illustrations. Boston: Little, 1961.

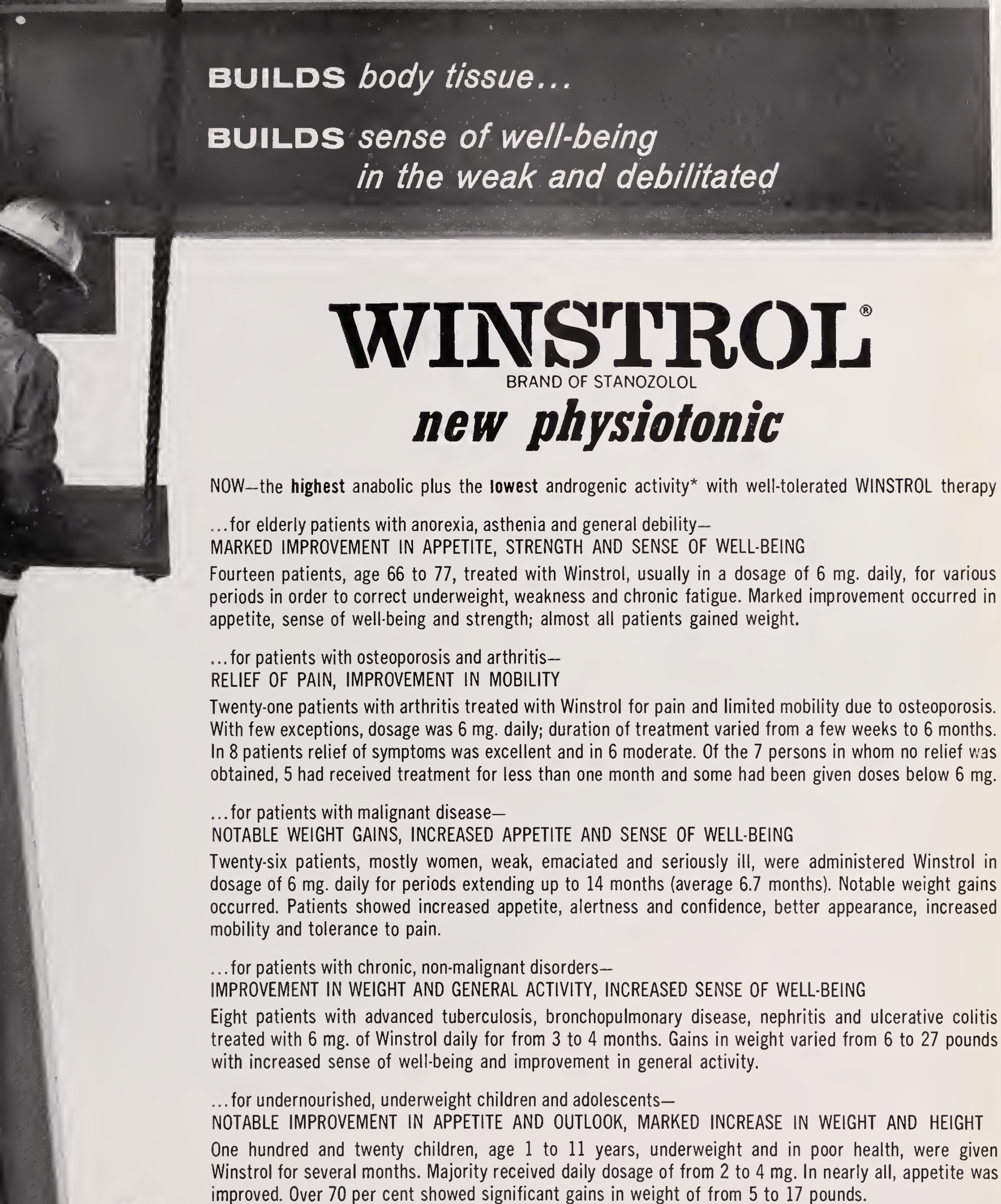
The interpretation of what often seems to be contradictory data pertaining to the metabolism of the newborn infant which have accumulated over the past dozen years has become a difficult chore for those of us not in daily contact with the results of research findings in this field. The Ciba Foundation, a rather unique international institution dedicated to the organization of small conferences involving scientists from all over the world, has turned to the subject of newborn metabolism and has collected in the current volume information presented by top scientists of varying backgrounds and interests, both to explore and clarify what is new and what needs to be done.

The general pattern of the book is a series of papers dealing with selected problem areas of the physiology and biochemistry of the newborn, followed by discussion and elaboration of their own experience and of others attending the conference. The list of topics is extensive and includes such subjects as carbohydrate metabolism, kidney function, biochemical changes of asphyxia, maintenance of body temperature, oxygen consumption, endocrine function, and many others. The list of participants is also impressive and includes such well known names as Villee, Migeon, James, Polani, Jonxis, McCance, Widdowson, and Clement Smith.

The book will inevitably be compared to Dr. Smith's book, "The Physiology of the Newborn Infant," to which, however, it should be viewed as a companion piece. It is not a book to read from cover to cover; the going is frequently heavy but always stimulating. It is also not a clinician's book, although clinical material is plentiful and well correlated with data from experiments performed in animals. The two indices are extensive; the author's index not only includes references to the authors who participated in the symposium but to those who are referred to as well.

This book is an important reference work. It is an effective illustration of how, through research in medicine, physiology and biochemistry are ever drawing closer together.

J. Wm. Oberman, M.D.



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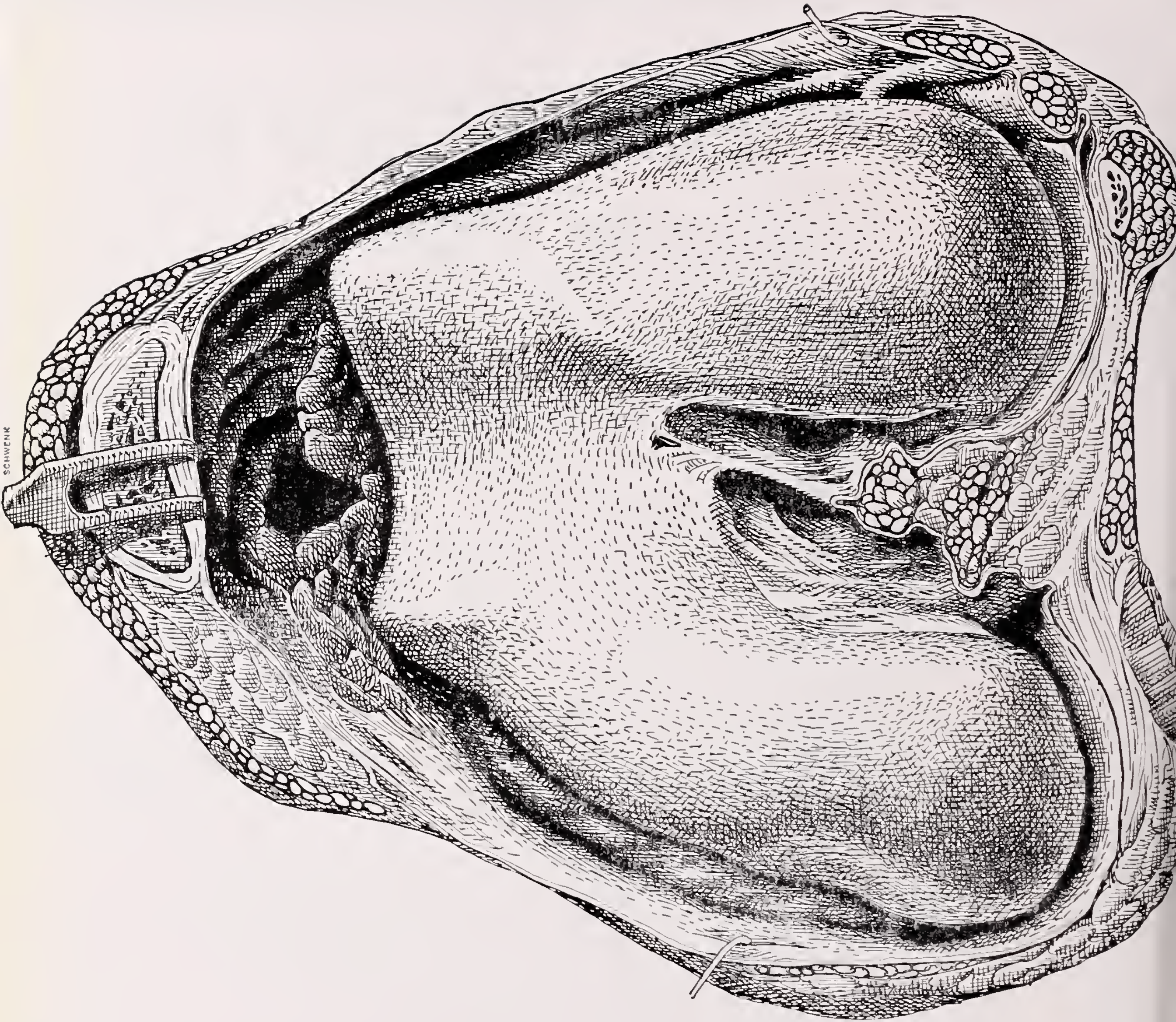

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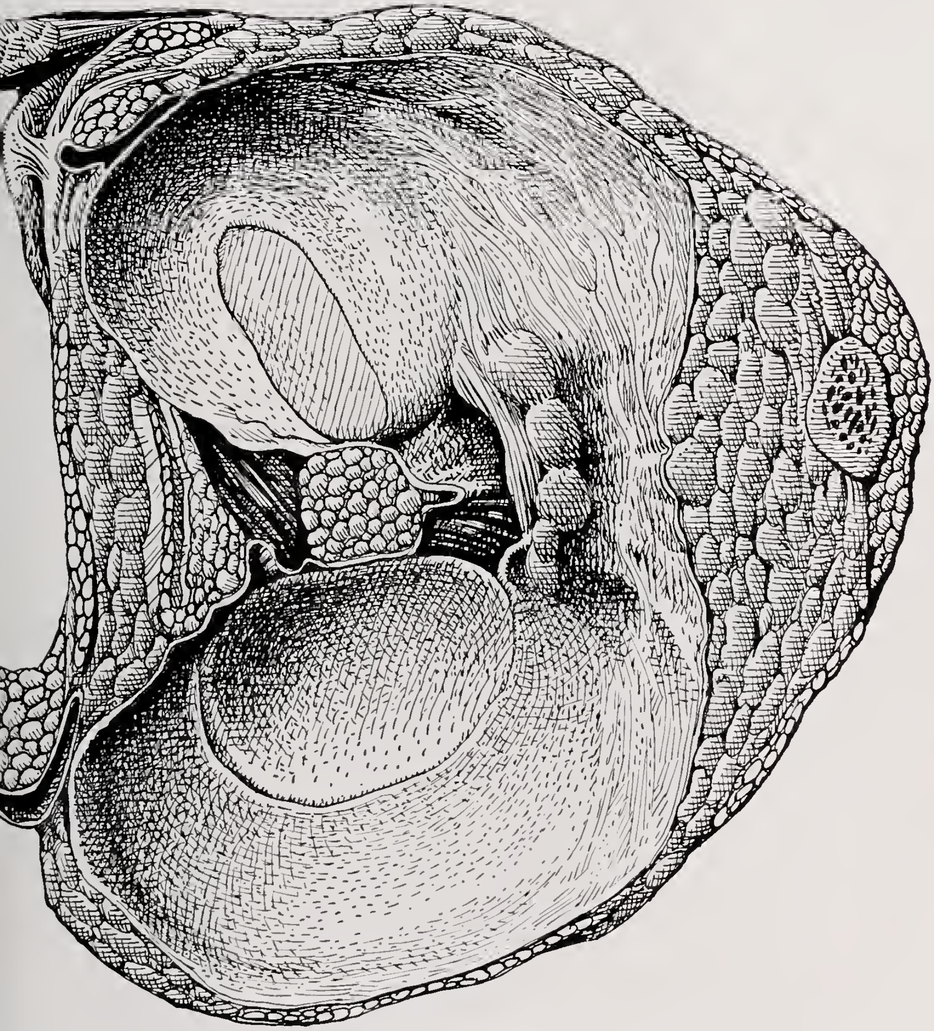

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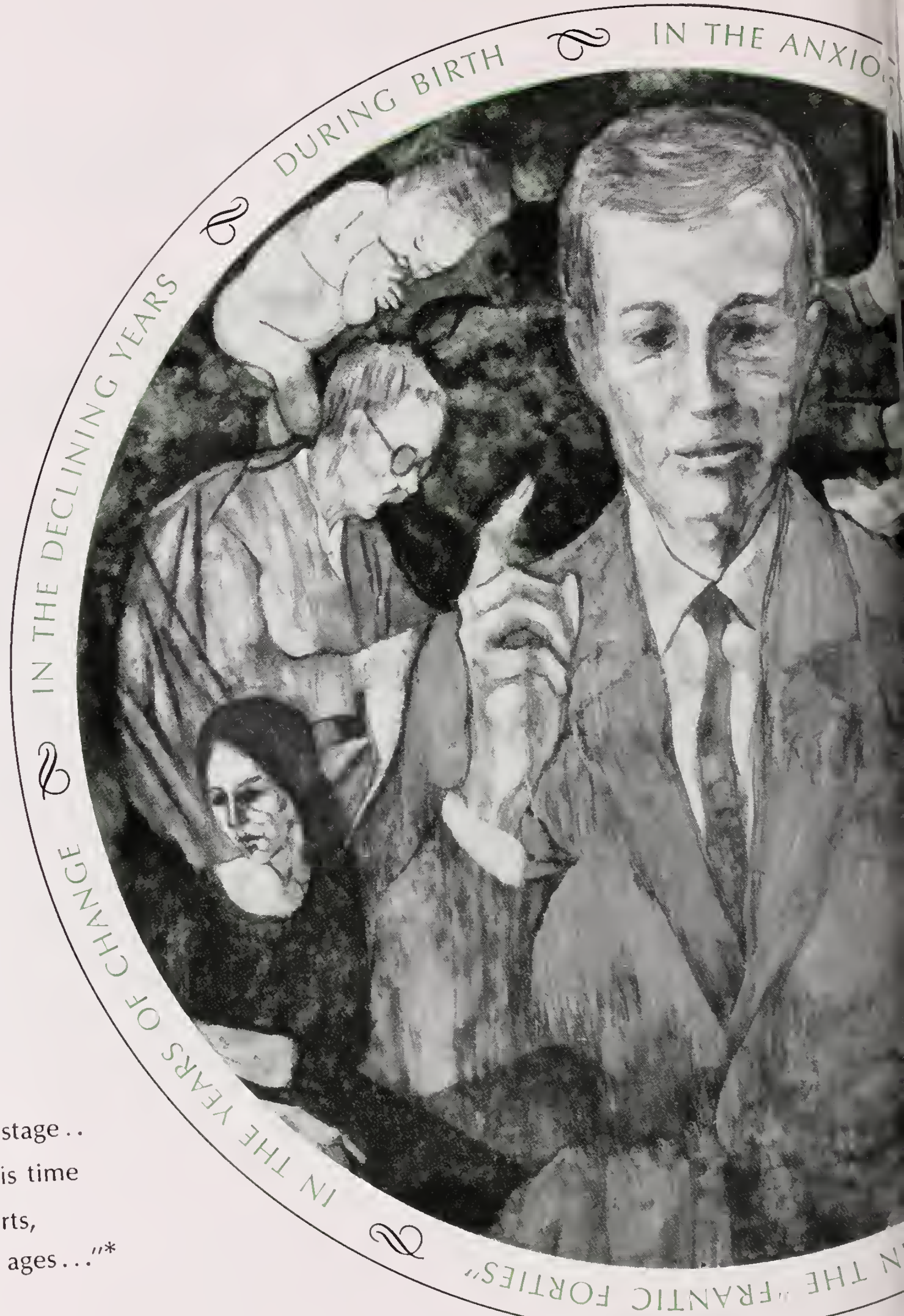
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1. King, J. C.: Int. Rec. Med. 172:669, 1959. 2. Weiner, L. J., and Bockman, A. A.: Sci. Exhibit, A.M.A., Ann. Meet., New York City, June 26-30, 1961.

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June 18–20: American Geriatrics Society. Palmer House, Chicago. Address: Dr. Edward B. Allen, *Secretary*, 21 Greenridge Avenue, White Plains, N. Y.

June 18–20: American Neurological Association. Claridge Hotel, Atlantic City, N. J. Address: Dr. Melvin D. Yahr, *Secretary*, 710 West 168th Street, New York 32, N. Y.

June 21–24: 63rd Annual Meeting of American Therapeutic Society. Sheraton-Blackstone Hotel, Chicago. Address: Dr. Oscar B. Hunter, Jr., *Secretary*, 915 19th Street, N.W., Washington 6, D. C.

June 21–25: 28th Annual Meeting of American College of Chest Physicians. Morrison Hotel, Chicago. Address: Mr. Murray Kornfeld, *Executive Director*, 112 East Chestnut Street, Chicago 11, Ill.

June 23: Annual Meeting of the American Association for the Study of Headache. Palmer House, Chicago. Address: Dr. Lester S. Blumenthal, Committee on Publicity and Public Relations, 5315 Connecticut Avenue, N.W., Washington 15, D. C.

June 23–24: American Diabetes Association. The Conrad Hilton, Chicago. Address: Mr. J. Richard Connelly, *Executive Director*, 1 East 45th Street, New York 17, N. Y.

June 24–28: 111th Annual Meeting of the American Medical Association. Palmer House, Chicago. Address: Dr. F. J. L. Blasingame, *Executive Vice President*, 535 North Dearborn Street, Chicago 10, Ill.

September 4–8: World Forum on Syphilis and Treponematoses. Sheraton-Park Hotel, Washington. Address: William Griggs, Communicable Disease Center, U. S. Public Health Service, Atlanta, Ga.

September 9–15: 12th International Congress of Dermatology. Shoreham and Sheraton-Park Hotels, Washington. Address: Dr. Naomi M. Kanof, Chairman, Local Committee on Arrangements, 1150 Connecticut Avenue, N.W., Washington 6, D. C.

October 12–13: American Medical Writers Association. Sheraton-Park Hotel, Washington. Address: Dr. Robert J. Benford, President, Mid-Atlantic Chapter, 1411 K Street, N.W., Washington 5, D. C.

October 15–17: Second Interstate Scientific Assembly. Sheraton-Park Hotel, Washington. Address: Mr. Theodore Wiprud, 1718 M Street, N.W., Washington 6, D. C.

October 25–27: Divisional Meeting, American Psychiatric Association. Shoreham Hotel, Washington. Address: Dr. Norman Taub, 3900 Garrison Street, N.W., Washington 16, D. C.

November 11–14: Association of Military Surgeons of the United States. Mayflower Hotel, Washington. Address: Colonel Robert E. Bitner, Secretary, 1726 Eye Street, N.W., Washington 6, D. C.

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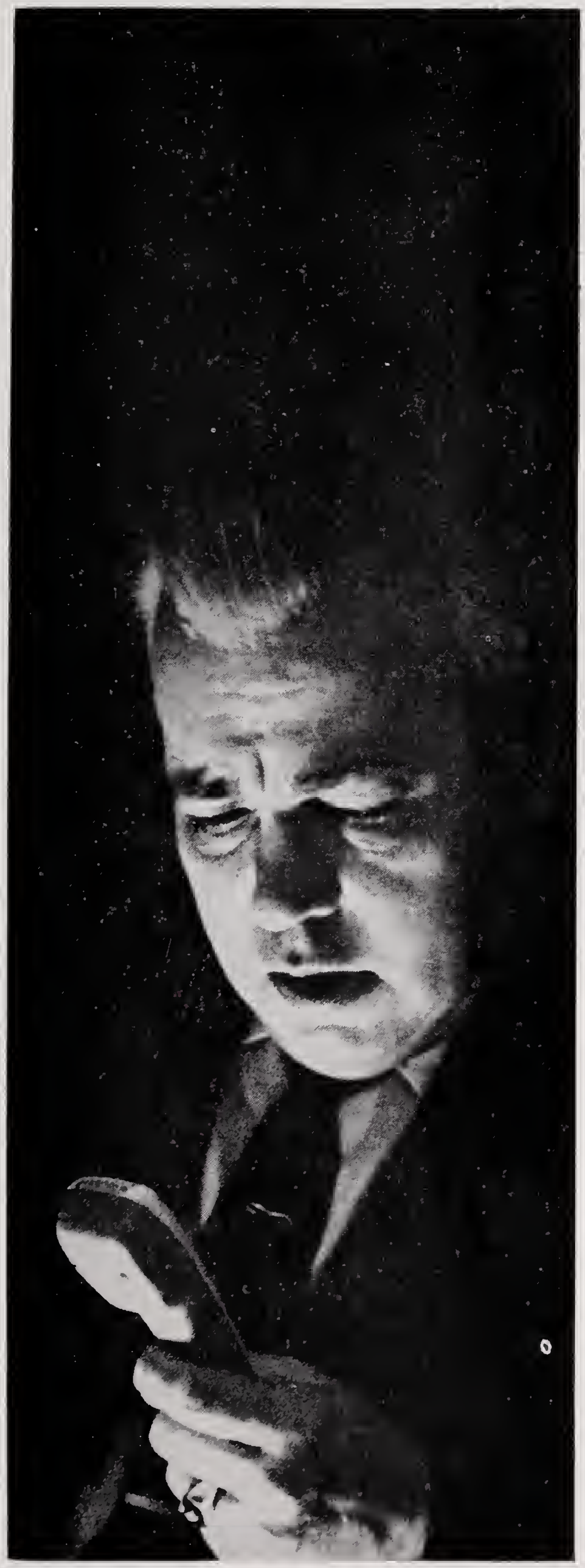

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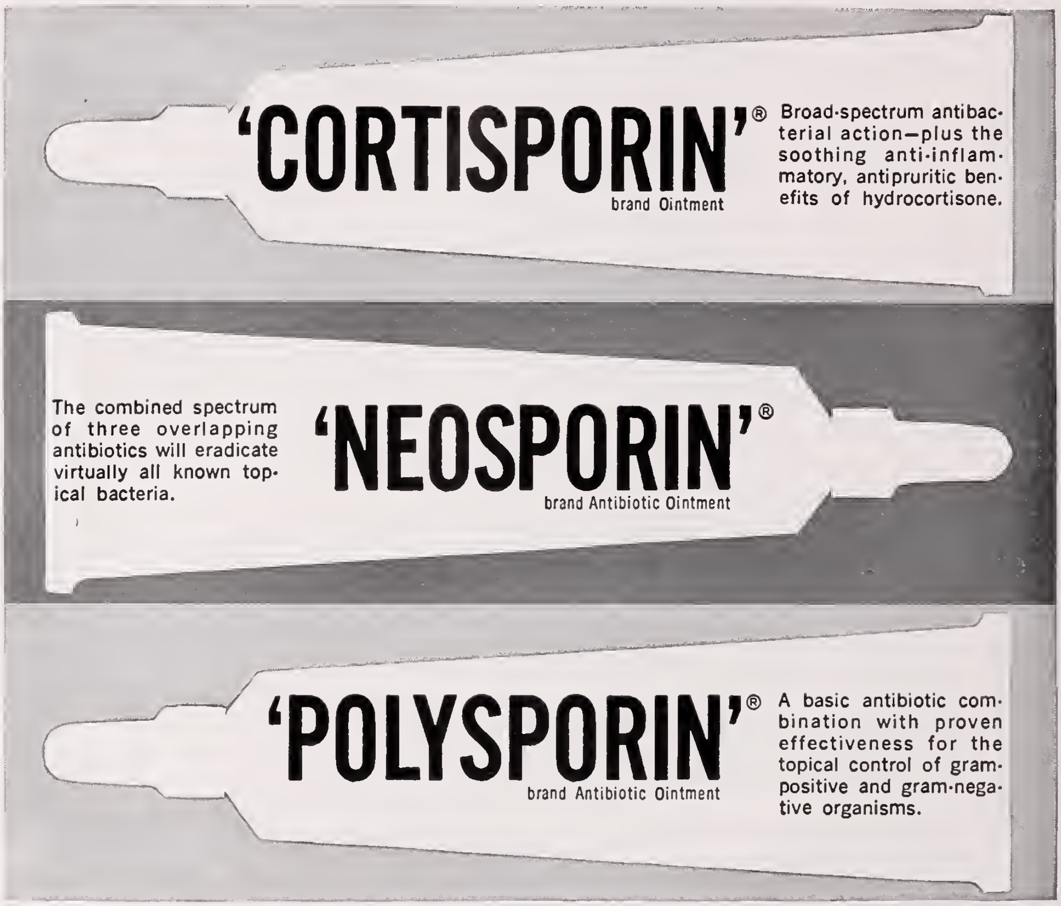
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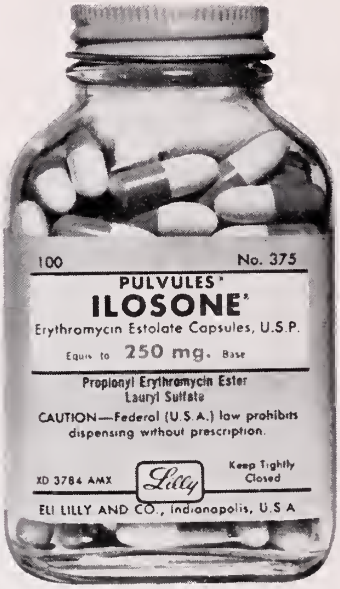
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May 1962 VOLUME XXXI • NUMBER 5

Clinical Patterns of Adrenocortical Insufficiency*†

HABEEB BACCHUS, PH.D., M.D.
Washington

THE CRITERIA for the diagnosis of overt adrenocortical insufficiency and Addison's disease are well known and are described in standard textbooks of medicine and endocrinology. Reliance is placed on the presence of hypotension, hypoglycemia, electrolyte disturbances, increased total eosinophils, and low resting levels of 17-hydrocorticosteroids and 17-ketosteroids of urine and plasma. Findings in a small percentage of calcification in the suprarenal area, the radiologic and clinical findings of a heart size smaller than normal, pigmentary changes, and alterations in axillary hair growth are all recognized as characteristic diagnostic clues to the disease.

It has become clear in recent years that there are several clinical situations in which the diagnosis of latent or occult adrenal insufficiency is not confirmed because of complete dependence on the criteria listed above. Therefore, a new classification of adrenocortical insufficiency based on these considerations may be useful (table 1). In this classification special emphasis is placed on iatrogenic adrenocortical insufficiency.

CLINICAL PATTERNS

ACUTE MULTIZONAL DEFICIENCY

Acute adrenal insufficiency can occur in the presence of previously normal adrenals, or in relatively deficient glands. The most well known etiology of acute adrenal insufficiency is fulminant septicemia, usually due to the meningococcus which causes bilateral adrenal hemorrhages as part of the generalized petechial hemorrhages caused by the organism. The pro-

TABLE 1
Classification of Adrenal Insufficiency

1. Multizonal deficiency: secondary to destruction by tumors, infection, and idiopathic
    a. Acute: meningococcemia; shock
    b. Addison's disease
2. Iatrogenic adrenocortical insufficiency
    a. Multizonal failure
    b. Selective failure of the inner zones
3 Defects in biosynthetic pathways (resulting in decreased cortisol)
    a. Defects in 11β hydroxylation
    b. Defect in C_{21} hydroxylation
        (1) Congenital
        (2) Childhood
        (3) Adult
    c. Defect in 3βol dehydrogenation
4. Secondary adrenocortical insufficiency
    a. Panhypopituitarism: damage, tumors, surgical or radiologic extirpation
    b. Hypoadrenocorticotropinism

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gression of this disease is rapid and unless definitively treated leads to shock, coma, and death. This syndrome is well known as the Waterhouse-Friderichsen syndrome.

The mechanism is essentially that of severe infection with adrenal damage, and therefore the body lacks the adaptive mechanisms of the adrenals. The diagnosis is obviously based on a high index of suspicion. Any patient with a fulminative febrile illness who develops petechiae and rapid fall in blood pressure should be studied for this possibility. It is possible to identify the organism within a few minutes by obtaining blood from the petechial hemorrhages in the skin and preparing a smear which is stained with gram stain. The discovery of gram-negative intracellular cocci should alert the physician to the probability of Waterhouse-Friderichsen syndrome. Vigorous therapy with intravenous glucocorticoids, pressor agents, and antibiotics is necessary. An acute elevation in total eosinophils also aids in the diagnosis. The chemical tests for adrenal hormones are too time-consuming to provide diagnostic data in this medical emergency.

ADDISON'S DISEASE

Addison's disease is the most readily diagnosed of the multizonal deficiencies. The patient is seen because of weakness, dizzy spells, hypotensive and hypoglycemic episodes, and low resistance. He is found to have hypotension, hyperpigmentation of pressure areas and the buccal mucosa, and a small cardiac shadow. Total eosinophil levels are found to range around 330 per cu.mm. or higher, and the fasting blood sugar is often low. A 24-hour urine excretion of 17-hydroxycorticosteroids is found to range below 3 mg. per 24 hours. The serum sodium and chloride in the classical cases are low, and the plasma potassium is above normal. Despite occasional failure to find an absolute change in serum Na and K, the ratio of Na to K is found to be decreased in most patients with Addison's disease, usually less than 30. The response of 17-ketosteroids and total eosinophils to ACTH is decreased or absent. The treatment of choice involves sodium chloride alimentation and the use of desoxycorticosterone and a glucocorticoid (cortisone, hydrocortisone or prednisolone).

All patients with Addison's disease should be worked up for the exclusion of miliary tuberculosis before definite steroid therapy is instituted, because tuberculosis accounts for about 20 per cent of cases of this disease and requires antituberculosis therapy. It is becoming increasingly clear that most of these patients fall into the group of idiopathic adrenal insufficiency.

IATROGENIC ADRENOCORTICAL INSUFFICIENCY

The natural and synthetic adrenocortical steroids and derivatives are being extensively used as nonspecific pharmacologic agents in the management of various conditions involving diverse organ systems, respiratory or cutaneous allergies, dermatoses of diverse nature, various malabsorption syndromes, various arthritides, and some specific infections, e.g., sarcoidosis, tuberculosis, in systemic connective-tissue diseases, nephrosis, and many less defined situations. In general, the patient and the physician observe certain precautions, and many patients on discontinuation of such therapy have been found to have evidence of occult adrenocortical insufficiency.

The symptoms and signs in such patients are not as clearcut as those in Addison's disease. The routine physical and chemical tests prove to be inadequate in the confirmation of the diagnosis of adrenal insufficiency. This form of iatrogenic adrenocortical insufficiency has been found to evolve in certain fairly discrete clinical patterns.

In multizonal adrenocortical insufficiency there is a functional significance to the morphologic zonation of the adrenal cortex. The work of Deane and Greep,[1] of Bacchus,[2] and more recently of Farrell[3] all demonstrated that the zona glomerulosa of the adrenal cortex is the probable site of secretion of the corticoid which controls sodium and potassium metabolism. This substance has been established as aldosterone. The zona fasciculata and zona reticularis produce the glucocorticoid hormones, which are represented by cortisol (hydrocortisone) in the human and in the guinea pig and by corticosterone in the rat. The cortisol type of hormones is involved in carbohydrate and protein metabolism but to a lesser extent also influences sodium and potassium metabolism.

Although all details of the mechanism of control of the adrenal zones are not at hand, there is considerable evidence to suggest that the zona fasciculata and zona reticularis are under complete control of the anterior pituitary through the adrenocorticotropic hormone, whereas the control of aldosterone secretion apparently is not as dependent on the anterior pituitary. The work of Deane and Greep,[1] Bacchus,[2] and Farrell[3] is consistent with this concept.

Despite the above considerations there are clinical situations in which multizonal adrenal insufficiency, including all parameters, electrolyte and carbohydrate metabolism, is found in patients withdrawn from exogenous corticosteroid therapy. In these patients the symptoms of adrenal insufficiency are usually precipitated by some form of stress, such as infection or surgery, with progression to unexplained shock or failure to respond rapidly to specific therapy for the infection. The diagnosis is usually suggested by an increase in the total blood eosinophils, lowered urinary steroids, or in the failure to observe an expected rise in 17-hydrocorticosteroids, 17-ketosteroids, or 17-ketogenic steroids in the urine of patients under stress.

A challenge with ACTH, if given to these patients, reveals an inadequate response in the urinary 17-ketosteroids, 17-hydroxysteroids and 17-ketogenic steroids. Therapy in such cases will involve the use of small doses of adrenal steroids and close observation during periods of stress. Such patients should be studied at intervals to determine the ability to respond to ACTH stimulation in the hope that they can eventually be weaned of any maintenance therapy.

Selective failure of the inner zones (zona fasciculata and zona reticularis) of the adrenal cortex is a complication of exogenous adrenocortical therapy quite consistent with the facts on the control of the adrenal cortex by the anterior pituitary through adrenocorticotropin. In this entity, as in the previous, the exogenous steroid induces a depression in the secretion of ACTH by the anterior pituitary. Since the functions of the zona fasciculata and zona reticularis are so strongly dependent on this trophic hormone, there results morphologic and probably biosynthetic atrophy in these zones. In this group of selective insufficiency of the inner zones there are no significant alterations in the serum electrolytes or in the blood pressure, but there occur many systemic manifestations of adrenocortical insufficiency as exemplified in the following case.

ILLUSTRATIVE CASE

The patient was a 59-year-old white woman who was known to have rheumatoid arthritis involving the elbows, wrists and knees. She was initially treated with salicylates and para-aminobenzoic acid salicylate combinations with only moderate improvement. She then moved to another city where she was managed with corticosteroids for three years. On return she was found to have become obese and to have acquired Cushingoid features, hirsutism, buffalo-hump obesity, purple striae, conjunctivitis, and increased capillary fragility, and had apparently had one episode of congestive heart failure. She was also found to have hyperglycemia. She was hospitalized to be either weaned off the exogenous steroids or for reduction of the dosage. On admission there was no overt clinical or chemical evidence of adrenocortical insufficiency. The blood pressure was 180/100, and the serum electrolytes were within normal limits. Urinary 17-ketosteroid excretion was 7.6 mg. per 24 hours. Protein-bound iodine was 7.6 mcgm. per 100 ml. The corticosteroid dosage was reduced in a stepwise fashion over a ten-week period, at the end of which the patient received no steroids. During the subsequent weeks she was observed to suffer from extreme fatigability and lassitude. Her blood pressure remained at 160/95, and the serum electrolytes were unchanged. The 1-hour postprandial blood glucose was 76 mg. per 100 ml., and an oral glucose tolerance test revealed the following findings (mg. per 100 ml.): fasting, 55; ½ hour, 122; 1 hour, 150; 2 hours, 139; 3 hours, 42; and 4 hours, 41. The urine revealed 1.6 mg. of 17-ketosteroid per 24 hours. The value after infusion of 50 units of ACTH intravenously revealed 1.7 mg. per 24 hours and 1.7 mg. per 24 hours on the third day. The patient developed a hypochromic anemia which was not otherwise explained by a complete hematologic workup. It was concluded that the decreased erythropoiesis was probably related to the demonstrated adrenal insufficiency. This patient was subsequently started on small doses of cortisone acetate (5 mg. per day) and was discharged later, after having regained some strength and improvement in her anemia.

In this patient the lack of any significant change in blood pressure or in serum electrolytes might have been considered as not consistent with a diagnosis of adrenal insufficiency. The fasting hypoglycemia, the decreased urinary 17-ketosteroids, and the nonresponse to ACTH are consistent with adrenal insufficiency. The insufficiency was selective and seemed to involve the production of glucocorticoid hormone. Earlier data in experimental animals have shown atrophy of the zona glomerulosa and reticularis following exogenous cortisone treatment. In such conditions the zona glomerulosa was unaffected. It was also shown that alterations in the dietary sodium/potassium ratio caused morphologic changes in the zona glomerulosa without affecting the zona fasciculata and reticularis. It seems likely in this patient, in view of the normal electrolytes and blood pressure despite other evidence of adrenal insufficiency, that there was a selective involvement of the glucocorticoid-producing portions of the adrenal cortex.

ADRENOCORTICAL INSUFFICIENCY SECONDARY TO DEFECTS IN BIOSYNTHETIC PATHWAYS

This grouping requires separate consideration from Addison's disease although it does not specifically exclude Addison's disease. Addison's disease is considered as involving adrenal atrophy of known or idiopathic etiology. In this group of adrenal insufficiency secondary to defective biosynthetic pathways there is almost invariably hyperplasia of the entire cortex or of parts of the gland. The hyperplasia is secondary to continued stimulation of the adrenal by ACTH, which, provided the anterior pituitary is intact, is increased whenever the level of cortisol is lowered.

In effect, regardless of the biosynthetic defect, there occurs a decrease in the circulating levels of cortisol. The release of ACTH by the anterior pituitary is in indirect proportion to the levels of cortisol in the circulation. As a consequence of decreased cortisol levels there results an increase in release of ACTH. The increased ACTH acts on the morphologically intact adrenal cells which respond by becoming hyperplastic. Early steps in the biosynthetic pathways are also increased by the increased ACTH. In the presence of specific enzymatic defects in the biosynthetic pathways, however, certain intermediates are diverted from the production of cortisol. Individual defects explain certain distinct clinical entities. These enzymatic defects are usually associated with adrenal hyperplasia, but there are adrenal tumors, benign and malignant, which occur in the presence of these defects.

Adrenal insufficiency (cortisol insufficiency) may be secondary to defective 11β hydroxylation. In the normal biosynthesis of adrenal steroids there are several enzymatic steps; the well-known steps are listed in table 2. One of the late steps in the biosynthesis of cortisol in the human adrenal is the conversion of 11-desoxy, 17-hydroxycorticosterone or compound S into 11-hydroxy 17 - hydroxycorticosterone (cortisol). This step is dependent on the enzyme 11β hydroxylase. A decrease in the process of 11β hydroxylation results in a decreased production of cortisol. As a result of the decreased cortisol levels there occurs an increase in the release of ACTH with further stimulation of the adrenal cortex. The synthetic pathways are stimulated also, and there occurs an increase in the levels of compound S which accumulates because of a decreased entrance into cortisol. Compound S

TABLE 2
Biogenesis of Adrenal Cortical Hormones

Enzymes	Pathway	Urinary Product	Clinically Usable Methods of Determination
	(Precursors) Acetate-cholesterol		
?	↓		
	Pregnenolone		
(1) 3-β ol dehydrogenase			
	Progesterone*	Pregnanediol	Alumina separation—H_2SO_4 spectrum
(2) 17-α hydroxylase	↓		
	17-hydroxyprogesterone	Pregnanetriol	Eberlein-Bongiovanni method-H_2SO_4
(3) 21-hydroxylase	↓		
	Compound S (11 desoxycortisol)	Compound S† Tetrahydro S 17-ketosteroids	Zimmerman reaction (for 17-ketosteroids)
(4) 11-β hydroxylase	↓		
	Cortisol (hydrocortisone)	Cortisol† Tetrahydrocortisol	17-ketogenic steroids (Norymberski method or modification)
	↓		
	6β Cortisol		

* Pathway for aldosterone starts at progesterone and involves nonhydroxylated compounds, viz., desoxycorticosterone, corticosterone, aldosterone.

† Detected by Porter-Silber method for 17 OH, 20,21 ketol side-chain.

(1) Defective in adrenal carcinoma?

(3) Defective in virilizing adrenal hyperplasia.

(4) Defective in the hypertensive type of (virilizing) adrenal hyperplasia.

has strong sodium-retaining and potassium-excreting actions and does not substitute for cortisol as a glucocorticoid. In addition, the accumulated compound S produces an increase in blood pressure similar to that produced by desoxycorticosterone.

This biochemical lesion is described under adrenal insufficiency because the patient suffers from a lack of sufficient amounts of cortisol. As a result these patients may have symptoms of hypoglycemia of a nonreactive type. In addition, they have significant elevations of blood pressure with sodium retention and potassium loss. More often the above pattern of glucocorticoid insufficiency, coupled with effects of excess of compound S, is found in association with certain virilization syndromes. In such cases there is another biochemical defect which results in the accumulation of masculinizing steroids. It is probable that defective 11β hydroxylation, while being responsible for the hypertensive salt-retaining syndrome, is not per se the basis of any of the masculinizing syndromes.

The detection of this lesion is based on the finding of abnormal carbohydrate metabolism, e.g., hypoglycemia secondary to the decreased cortisol, sodium, potassium, and blood-pressure changes due to the accumulation of compound S. The urinary 17-ketosteroids are usually increased; the urinary 17-hydroxycorticosteroids are also increased since compound S is a 17-hydroxylated compound. The urinary 17-ketogenic steroids (total and reduced) are also elevated, since, on oxidation of the side chain the 17-ketosteroids are produced. Urinary tetrahydro-compound S is elevated, and this is the specific diagnostic test, but it is not a readily available test. The finding of an elevated 17-hydroxycorticosteroids or 17-ketogenic steroids in the presence of hypoglycemia or of a flat glucose tolerance curve should suggest the presence of this lesion in corticosteroid biosynthesis.

Adrenal insufficiency (cortisol deficiency) may be secondary to defective C_{21} hydroxylation. One of the late steps in cortisol synthesis by the adrenal gland involves the process of hydroxylation of the methyl group at C_{21} in 17-hydroxyprogesterone. In the presence of a defect in this process there occurs a decrease in the production of cortisol. The resulting decreased cortisol levels, through the negative feedback relationship to the anterior pituitary, is followed by an increased release of ACTH, to which the adrenal responds by becoming hyperplastic and produces more steroids up to the step of 17-hydroxyprogesterone. This substance is then reduced to pregnanetriol and presumably to certain androgenic substances. These androgenic substances may also be derived from a backing-up in the earlier styles of corticosteroid biosynthesis.

The clinical sequelae of the decreased cortisol include hypoglycemia and weakness, although these are not constant. Such patients may also suffer from hypotension secondary to the decrease of cortisol. The most prominent clinical features of the defective C_{21} hydroxylation, however, are related to the gonadal alterations. The presumption is that the accumulated androgens disturb the pituitary regulation of gonadotropin production, with considerable effects on maturation as well as on regulation of genital function. The evolution of the clinical syndrome will depend on the time of occurrence in the life history of the individual.

DEVELOPMENT OF THE SYNDROME SECONDARY TO A CONGENITAL DEFECT

The clinical manifestations depend on the sex of the patient. Female infants will be seen at birth to have an enlarged clitoris (female pseudohermaphroditism). At this stage specific identification of the morphologic features is important. There are no other gross significant features until several months later, at which time there occur pubic hair growth associated with an increase in bone age. Axillary hair and deepening of the voice associated with acne occur at the time of pseudopuberty. These patients will fail to achieve menarche and have masculine pelvic and pectoral development if left untreated.

Male infants with this syndrome are not readily detectable because of the isosexual character of the disease. Within several months the growth of the penis is noticeably increased. Increased bone development and precocious pseudopuberty appear.

DEVELOPMENT OF THE SYNDROME IN CHILDREN

The manifestations in the female are those of heterosexual precocious pseudopuberty. The virilization and precocity in females are quite similar to the occurrence in the congenital form with the exception that the persistent urogenital sinus found in the congenital form is not found. This is an important differential diagnostic feature. The features are rather difficult to distinguish from the congenital type.

Although hyperplasia is frequently the basis for this defect, in this type tumors are more often found than in the congenital variety. In the congenital variety there occurs a familial incidence of the syndrome.

DEVELOPMENT IN THE ADULT FEMALE

Excessive hair growth of male type and distribution over the face, extremities and chest appears. The voice is deep, secondary to masculine laryngeal development. The body configuration is quite masculine, with atrophic breasts and a well-developed clitoris. The patients quite often are found to have an infantile uterus.

In all three types discussed the urinary steroid studies reveal decreased levels of 17-hydroxysteroids and elevated levels of 17-ketosteroids, and especially of the 17-ketogenic steroids (total and reduced). The urinary pregnanetriol level is increased. Blood levels of 17-hydroxyprogesterone are not consistently increased.

The hypertensive form of adrenal hyperplasia is not basically a problem in C_{21} hydroxylation and is ascribable to an accumulation of desoxycortisol (compound S); this is consistent with the findings of high urinary excretion of desoxycortisol and its reduction product tetrahydro-S. There is usually only a small amount of pregnanetriol excreted relative to the high levels of 17-ketogenic steroids, 17-hydroxysteroids, and 17-ketosteroids. These high levels reflect the production and accumulation of desoxycortisol, not cortisol, the side–chains of both compounds being identical. Despite the above consideration this type of syndrome is often discussed with the adrenogenital syndrome.

There is a clinical variant of defective C_{21} hydroxylation in which the circulating levels of 17-hydroxycorticosteroids and cortisol are especially markedly decreased. This is apparently secondary to a relatively more severe defect in the reaction of hydroxylation at C_{21}. The high level of ACTH resulting from the lowered cortisol in the circulation leads to marked adrenal hyperplasia, but the cells are unable to produce sufficient amounts of C_{21} hydroxylated steroids to prevent salt loss and adrenal insufficiency. An occasional patient with this defect exhibits salt loss and adrenal insufficiency only under conditions of stress; the probability is that the chemical defect is less severe in these patients. In both types of the salt-losing syndrome the excretion of pregnanetriol is even greater than in patients who do not suffer from the salt loss. The basic reason for this severe form of salt-losing situation is not known. It has been suggested that a "salt-losing factor" is produced in this syndrome. Other workers believe that certain progesterone-like steroids may inhibit sodium reabsorption and antagonize the salt-retaining actions of C_{11}-desoxygenated compounds.

ILLUSTRATIVE CASE

The patient was a 24-year-old Negress who was seen because of hirsutism and amenorrhea. She stated that excessive hair growth started at age 15 and that she had had menstrual periods only for a two-year period after menarche. She also complained of an enlarged clitoris and was disturbed as to her sexual identity, but she had enjoyed male company. For the past four years she had complained of weakness. The family history was noncontributory.

Physical examination revealed a young woman with evidence of shaving facial hair and moustache. The voice was in female register. The blood pressure was 110/70. There were prominent pectoral hair with good female breast development, a masculine escutcheon, profuse hair over the arms and legs, slight temporal recession of the hair line, a clitoris 4 cm. long, nonvirginal introitus, and infantile uterus. Routine laboratory examinations were within normal limits and the serum electrolytes were normal. Buccal mucosal cytology was consistent with that of the female sex. Urinary 17-ketosteroids were 60 mg./24 hours; the reduced 17-ketogenic steroids were 66 mg./24 hours. Urinary pregnanetriol was 25 mg./24 hours. The patient was started on 80 mg. of hydrocortisone daily by mouth for one week, and the amount was gradually reduced to a maintenance dose of 20 mg./day. After two weeks of therapy the urinary steroids were reduced to one-half of the baseline levels. At the end of four weeks and on several occasions thereafter the steroids were within low normal ranges. The most recent pregnanetriol level was 3 mg./24 hours. This patient has had regular menstrual periods for about one year now. Cervical smears at intervals are consistent with regular ovulation. The symptom of weakness has disappeared and on occasion recurs when medication is missed for two or three days.

Although the major manifestation here is one of overproduction of androgens, the weakness associated with lowered fasting blood sugar and blood pressure is presumed to be reflective of the decreased levels of cortisol secondary to the defect in C_{21} hydroxylation. I have seen at least five other patients with this clinical pattern whose glucose tolerance curves were in the range of functional hypoglycemia. These patients had episodes of internal tremors relieved by ingestion of food. Such episodes do not occur while they are on steroid therapy.

DEFECT IN PROCESS OF 3-β ol DEHYDROGENATION

No well known clinical syndromes based on this lesion have been described. Recent studies have shown that in cases of adrenal carcinoma there occurs a defect in this pathway. This is probably the basis for the occurrence of increased levels of Allen's blue chromogens of dehydroepiandrosterone-type compounds in adrenal carcinoma.

TABLE 3
Pituitary Hypofunction

	Normal	Panhypopituitarism	Limited Pituitary Response	Hypocorticotropinism ACTH
Thyroid function	Normal	Decreased	Normal	Normal
Gonadal function	Normal	Decreased	Normal	Normal
Basal 17-ketogenic steroids	Normal	Decreased	Low normal	Decreased
17-ketogenic steroids response to SU 4885	100% increase	40% increase	Increase	25% increase
17-ketogenic steroids response to ACTH	80-90% or more	80-90% or more	80-90% or more	80-90% or more

SECONDARY ADRENOCORTICAL INSUFFICIENCY

PANHYPOPITUITARISM

The features of primary adrenal insufficiency described above are present in this type also, with the exception of lack of pigmentation changes and lack of electrolyte changes. In addition, the patient shows signs of hypothyroidism and laboratory evidence of this deficiency, namely, decreased protein-bound iodine, low radioiodine uptake by the thyroid, and low erythrocyte uptake of labeled tri-iodothyronine. The patient also shows evidence of decreased gonadotropic substances manifested by changes in libido and decrease in the size of accessory and secondary sex characteristics.

The underlying mechanism of the adrenal insufficiency in this syndrome is the relative or absolute decrease of secretion of adrenocorticotropic hormone by the anterior pituitary. The causes of pituitary destruction are tumors, tuberculosis, amyloid infiltration, and damage due to unknown causes. In this condition there are multiglandular deficiencies, and the treatment consists of replacement of adrenal, thyroid and gonadal secretions. The symptoms are probably due mainly to alterations in the levels of cortisol. There occur fasting hypoglycemia and a flat glucose tolerance curve, but there are no major alterations in the Na/K ratio. Some of the additional features of this clinical state are listed in table 3.

HYPOADRENOCORTICOTROPINISM

It has recently been noted that certain patients may have symptoms and signs which are suggestive of adrenal cortical insufficiency, namely, lassitude, weakness, hypoglycemic symptoms, hypotension, amenorrhea, and decreased axillary hair growth, but no increase in pigmentation. The resting urinary 17-ketosteroid, 17-ketogenic steroid (total and reduced) and 17-hydroxycorticosteroid levels are found to be decreased. However, in response to a challenge to ACTH injection there is noted a good adrenal response as indicated by increases in plasma and urine corticosteroids and in an eosinophilic response.

Many of these patients have more recently been studied for pituitary disease. They are found to have normal thyroid and gonadal functions and therefore are not classed with panhypopituitarism. It has been possible to employ an inhibitor of adrenal hormone biosynthesis as a test for pituitary adrenocorticotropic function, i.e., a gauge of the ability of the pituitary to produce adrenocorticotropin. (The methods for measuring blood levels of adrenocorticotropic hormone are difficult and not yet available as a clinical tool.) The substance most frequently used is a derivative of amphenone and is called SU 4885 (Metopirone,® Ciba). This substance is known to inhibit the process of 11β hydroxylation. In the presence of a lesion in this process the production of cortisol is inhibited, resulting in decreased levels of plasma cortisol. As a result of the decreased 11β hydroxylation there occurs an increase in the levels of 17-hydroxycorticosteroids not hydroxylated at C_{11}, the main product being compound S. This substance is measured either as 17-hydroxycorticosteroids by the Porter-Silber method or as 17-ketogenic steroids. In addition, the 17-ketosteroid derivatives of such steroids are increased when SU 4885 is given to patients with an intact pituitary adrenal axis.

Patients with hypocorticotropinism fail to show a significant increase in the urinary 17-ketogenic steroids, 17-hydroxysteroids or 17-ketosteroids following the ingestion or the intravenous infusion of SU 4885 (table 3).

DISCUSSION

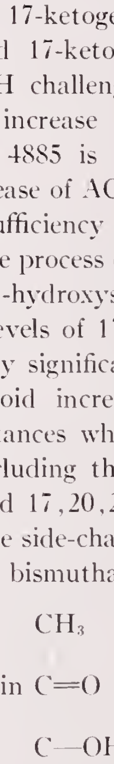
In this classification of adrenal insufficiency major emphasis is placed on defects in the biosynthetic pathways in the adrenal cortex. In addition, the morphologic zonation of the adrenal cortex is shown to be of functional significance. The major pathways of adrenal steroid biosynthesis of clinical importance are described and the enzymes involved are listed and discussed. This approach provides a basis for the clinician to understand some of the biochemical reasons for clinical manifestations. This correlation of biochemical mechanisms with clinical disease patterns is important in modern medical practice and provides the major hopeful approach to definitive medical care. It should be noted that the various clinical types listed here are essentially characterized by a deficit in the supply of cortisol, the final steroid in the human adrenal cortex. Many of the clinical manifestations described in the various entities are secondary to decreased levels of cortisol in the circulation. It is also shown that other manifestations are secondary to the accumulation of abnormal metabolic products secondary to defects in certain steps in the biosynthetic pathways, as the virilization secondary to excessive androgen production in the presence of a defect in the C_{21} hydroxylation, or the salt retention and hypertension expected when there is a defect in 11β hydroxylation.

The various virilizing syndromes have been grouped under the classification of adrenal hyperfunction by others. However, it is clear that many of the symptoms and signs are also due to cortisol deficiency as well as to the excess in masculinizing hormones. For this reason this grouping is justifiable.

The form of adrenocortical insufficiency which is becoming more prevalent is that which follows long-term therapy with exogenous corticosteroids. This entity deserves some discussion, since the usual criteria for diagnosis of adrenal cortical insufficiency often do not apply, especially in the presence of selective atrophy of the inner zones of the adrenal cortex. The patients have no hypotensive symptoms or signs and exhibit no electrolyte disturbances but show alterations in carbohydrate metabolism and urinary steroid levels and in the response to ACTH. The diagnosis of latent insufficiency, whether of the multizonal variety or of the selective zonal atrophy type, is important, especially in patients with serious infections, thyroid disease, or diabetes mellitus, or in candidates for surgical procedures. Such patients often require adrenal steroid supplements. In the individual with adrenal insufficiency, hyperthyroidism or exogenous thyroid therapy will intensify the symptoms of adrenocortical insufficiency, and he therefore requires supplemental adrenocortical therapy. The patient with the unusual association of adrenal insufficiency with diabetes mellitus requires special care in the regulation of insulin dosage since they are unusually prone to insulin-induced hypoglycemia. Patients with adrenal insufficiency are also rather sensitive to many drugs including narcotics and sedatives.

In the course of observing several patients after withdrawal from long-term steroid therapy it has been possible to establish certain procedures to be employed in the diagnostic workup. In addition to the history, physical examination and routine urinalysis and hematologic studies, a glucose tolerance test and estimation of the 17-ketosteroids and 17-ketogenic steroids (total and reduced) and occasionally the urinary 17-hydroxycorticosteroids in a 24-hour urine collection are done. The glucose tolerance curve is often flat or shows evidence of poor glucose absorption. In the presence of lowered levels of urinary steroids these patients are given 1 mg. of fluorohydrocortisone daily by mouth in order to prevent any allergic reactions to infused ACTH. After two days these patients are given 40 units of ACTH in 500 ml. of saline or 40 units of ACTHAR® gel intramuscularly. Two 24-hour urines are then examined for 17-ketogenic steroids, 17-ketosteroids, or 17-hydroxysteroids. In patients with normal or low normal baseline steroid values I have occasionally withheld the fluorohydrocortisone. The individual with adequate adrenocortical function exhibits an increase over baseline levels exceeding 80 per cent during the first 24-hour period following the injections. It has been my experience that the determination of the 17-ketogenic steroids (total and reduced) is probably most consistent with the state of adrenal cortex reactivity. This is consistent with the extensive data of others.

Occasionally in the patient with low or low-normal resting urinary steroid levels but with normal response to ACTH it becomes necessary to determine whether the lowered baseline levels are secondary to a decrease in pituitary ACTH production. The challenging test to determine pituitary adrenocorticotropic function is to give the patient SU 4885 as described above and determine the changes in the levels of 17-ketogenic steroids or 17-hydroxysteroids. It has been my experience that the urinary 17-ketosteroids may be used in this test also, but the response is usually slower than that of hydroxylated compounds. On occasion an interesting precursor-product type of relationship is observed between the 17-ketogenic steroids or 17-hydroxysteroids and 17-ketosteroids during the SU 4885 or ACTH challenging tests. The lack of a significant increase in the urinary steroids following SU 4885 is consistent with decreased pituitary release of ACTH.

In the adrenal insufficiency syndrome secondary to a defect in the process of C^{21} hydroxylation the levels of 17-hydroxysteroids are decreased, whereas the levels of 17-ketogenic and 17-ketosteroids are very significantly increased. The 17-ketogenic steroid increase reflects an accumulation of substances which possess the 17-hydroxyl group, including those with 17,20 glycol, 17,20 ketol, and 17,20,21 triol, as well as the dihydroxyacetone side-chains, these being oxidizable by sodium bismuthate to 17-ketosteroids. The side-chain  $\begin{array}{c}CH_3\\|\\C=O\\|\\C-OH\end{array}$ present in 17 O—H progesterone is eventually converted to 17-ketone by sodium bismuthate after initial reduction with potassium borohydride. The most significant finding in the presence of this lesion is that of an increase in pregnanetriol, which is the reduction product of 17-hydroxyprogesterone. The method for accurate determination of this substance involves glucuronidase hydrolysis, extraction, and separation on alumina columns, and determination of the spectrum in sulfuric acid. Although this method is complicated, it is extremely useful. I have found this pro-

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Arterial Obstructive Disease

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In a population with increasing longevity the occurrence of degenerative diseases is an increasingly common problem. With the improvements in the methods of diagnosis and awareness of the problem more and more people with major arterial obstruction are being found in the younger age groups. The problem of arterial obstruction is associated with disability and loss of earning capacity as well as the actual loss of extremities. The fact that serious disability results for prolonged periods, frequently before actual extensive gangrene, is productive of serious manpower loss. Development of surgical techniques has made alleviation possible in a large group of patients. For this to be effectively applied there must be an increased awareness of the possibility of such correction so that those patients may be properly studied to determine who are suitable for operative repair.

The majority of patients who present the signs and symptoms of arterial obstruction have arteriosclerotic disease. Although this general term has been widely applied to obstructive arterial phenomena, there are many variations in the clinical manifestations and pathologic anatomic changes within this general category. The current classification of arterial diseases is not scientifically satisfactory, but the observations of the surgeons who see the various manifestations have done much to clarify the older beliefs and have provided information for further investigation which we hope will give rise to greater progress. It has long been recognized that arteriosclerotic disease tends to be a generalized process. For this reason the treatment of local lesions has frequently been neglected. However, although the process itself may be generalized, there is a large group of patients in whom the only serious manifestation for prolonged periods of time may be one or two local areas of obstruction. When these areas of obstruction are surgically accessible, major benefit may be derived from surgical treatment.

In a patient who presents evidence of arterial obstruction in the lower extremity the physical examination is usually adequate to permit diagnosis of the type of lesion. A decision must first be made as to whether this is an obstructive disease or whether it is vasospastic. If it is obstructive, one must decide whether it involves large vessels, small vessels, or a mixture of the two. If it is a mixture of disease of large and small vessels, the role of each component must be evaluated as to its contribution to the patient's disability. Arbitrarily, one can consider that large vessels are the aorta, iliac, femoral, and popliteal arteries. Arteries of lesser size than this should be considered small arteries or arterioles.

Obstruction of large vessels is most favorable for direct surgical intervention. Here the disease is frequently segmental, and the area of obstruction tends to be relatively short. Such obstructions tend to occur at regions of bifurcations of vessels and in the region of the adductor canal in the leg.[1]

When major arterial obstruction occurs certain characteristic phenomena follow, the effect of which has a marked influence upon the subsequent course of the disease pattern.

The pathogenesis of this obstructive arterial event also must be understood to accurately assay the hemodynamic problem.[2] The arteriosclerotic process is usually an insidious one, with gradual narrowing of the arterial lumen. This process involves subintimal thickening and atheroma formation occurring in one site or extending for some distance along the vessel wall. As the effective lumen decreases to a critical diameter, the effective distal perfusion diminishes and early symptoms of fatigue of the involved limb occur. A bruit may be present at this time on auscultation over the involved channel, but there is no loss of the peripheral arterial pulsation. Concomitant with the process of narrowing there is a gradual increase in the size and utilization of the collateral vessels which bypass the area of partial obstruction.[3] The final event in this process is complete obliteration of the remaining lumen, usually due to the formation of a thrombosis. Despite the fact that collateralization has been present for some time, this final interruption of pulsatile flow through the arterial tree is accompanied by an abrupt increase in symptoms, ranging from a moderate increase in claudication to complete incapacity.

It is at this point in the process that the sequelae of complete obstruction occur, and the subsequent viability of the extremity or organ involved depends upon the effectiveness and maintenance of the collateral flow. Followthe complete block of the arterial tree the artery proximally and distally to the obstruction begins to undergo thrombosis, since the segments are blind pockets. This process continues along the arterial wall to the next major arterial branch located proximally or distally to the occlusion. If adequate collateral pathways have formed and are free of disease, the propagation of the thrombus ceases, and the acute process enters a compensated state of equilibrium. Obviously, this segmental occlusion can recur at another site in succeeding days, months or years. In contradistinction, if arteriosclerotic processes in major branches are present, the propagation of the thrombus may continue, involving one branch after another until the viability of the limb or organ has been completely compromised and the limb or organ is lost.

Similarly, the viability of the extremity may be lost when, in addition to complete segmental arterial occlusion, there are only moderate collateral channels and a very poor arteriolar tree distally. In this case, the arterial flow having been markedly compromised by the complete occlusion of the arterial tree, the viability of the limb or organ may be compromised, since the resistance to flow in the smaller arterioles may prevent adequate arterial perfusion when the direct pulsatile force is removed by the complete occlusion in the major channel.

It is obvious that restoration of forcible arterial pulsatile flow should be accomplished in every situation in which this can technically be achieved. Unfortunately, this restoration by endarterectomy, resection and grafting, or by the utilization of a bypass graft can not always be accomplished; and in this group of patients indirect procedures such as sympathectomy must be utilized to expand the terminal arteriolar bed and decrease the resistance to arterial inflow.

The common sites for large vessel occlusion are located in the aorto-iliac region and in the femoral vessels. Segmental obstruction localized in the terminal portion of the aorta and not extending proximally or distally is extremely unusual. In most there is either proximal propagation of the obstructing process in a retrograde fashion toward the renal vessels and enlarged lumbar arteries or extension into one or both common iliac vessels. In those patients in whom the process extends toward the renal orifices progressive obstruction to the renal arteries may terminate in death. This complication is rare. More commonly there is only a partial obstruction to renal perfusion. A small number of the patients with renal hypertension

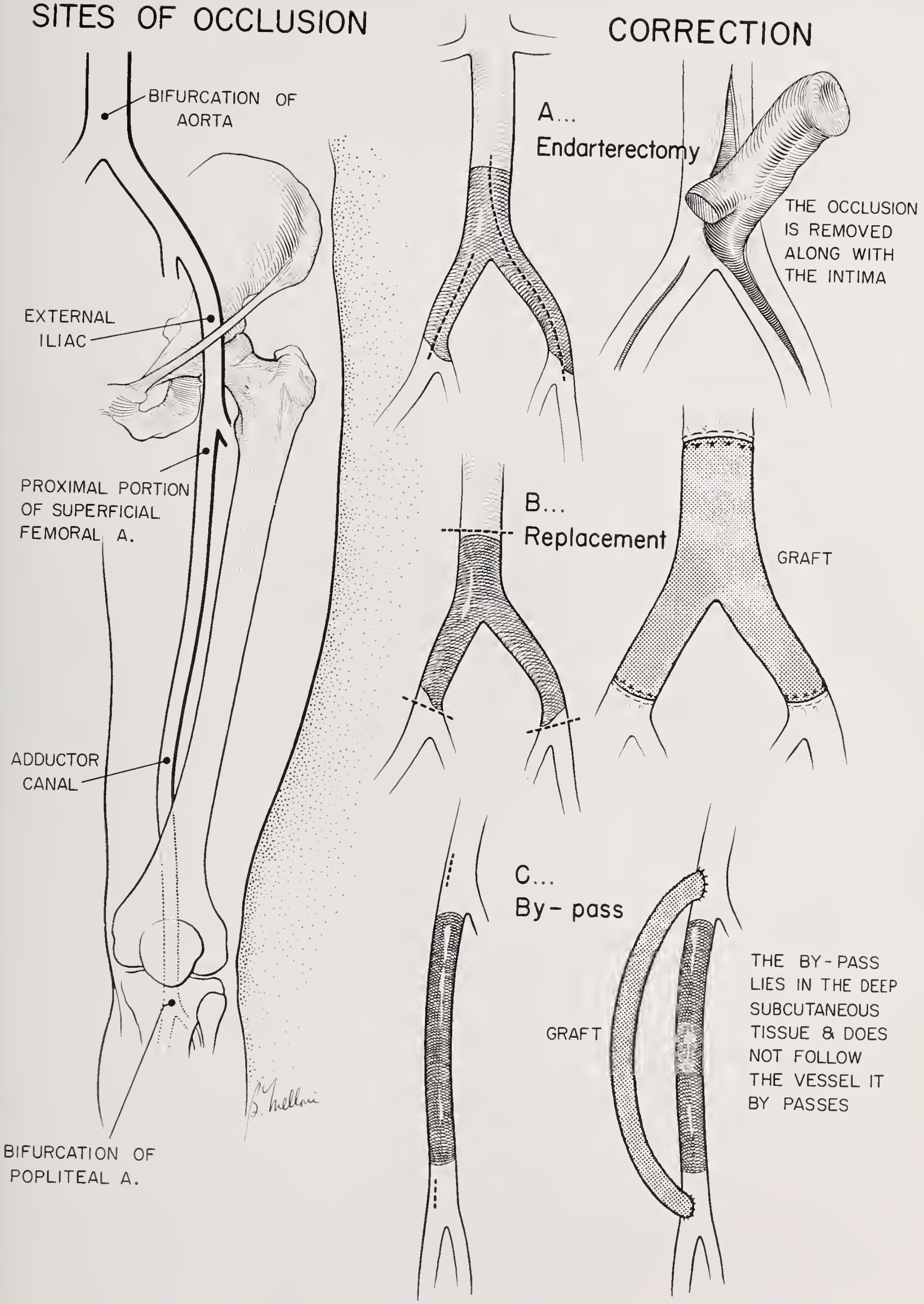
SITES OF OCCLUSION
BIFURCATION OF AORTA
EXTERNAL ILIAC
PROXIMAL PORTION OF SUPERFICIAL FEMORAL A.
ADDUCTOR CANAL
BIFURCATION OF POPLITEAL A.
CORRECTION
A... Endarterectomy
THE OCCLUSION IS REMOVED ALONG WITH THE INTIMA
B... Replacement
GRAFT
C... By-pass
GRAFT
THE BY-PASS LIES IN THE DEEP SUBCUTANEOUS TISSUE & DOES NOT FOLLOW THE VESSEL IT BY PASSES

FIGURE 1

comprise this group of ascending aortic obstructions with partial renal artery obstruction.

Frequently the process in the abdominal aorta extends into one or both common iliac vessels, either partially or completely obstructing the lumina. Clinically there is little to differentiate complete aortic obstructions which involve the terminal aorta and those in which the obstructive process extends into the iliac arteries. At surgery the arterial tree must be completely evaluated to insure a complete reconstruction and to be certain that all partially obstructive processes above and below the surgically restored vessel are removed.

Obstructions involving the common iliac vessels are usually short and involve the hypogastric orifices. It has been observed that 80 per cent of those arterial obstructions originating within the abdominal cavity terminate above the inguinal ligament. Of the remaining 20 per cent one-half do not extend below the bifurcation of the femoral artery. Because of the magnitude of collaterals just above the inguinal ligament it is often dangerous to manipulate the vessels in this area, since failure of primary procedures in this region may lead to disastrous results following surgery. The direct involvement of the hypogastric orifices and vessels in these common iliac obstructions can lead to troublesome problems, particularly in the male; symptoms of impotency and claudication may be the initiating reason for seeking therapy.

Femoral artery obstructions in the area below the inguinal ligament rarely involve the profunda femoris vessels. Involvement may mean the difference between survival and loss of the extremity. The extensive collateral circulation extending from the iliacs to the extremities arborize with the profunda vessels to maintain limb perfusion.[4]

Two other frequent sites of femoral vessel occlusion are located in the adductor canal and at the distal end of the vessel in the popliteal space. Distinct signs and symptoms for each site of occlusion are present and will localize the point of arterial obstruction in most instances. However, since in these lower obstructions the need for preoperative knowledge of adequate distal runoff must be ascertained, In all obstructions originating below the inguinal ligament arteriography is indicated.

TREATMENT

In reconstructive procedures carried out for alleviation of arterial obstruction some basic principles should be constantly observed. The dictum "do not harm" can and does sum up the entire philosophy of this type of surgery.

During surgical procedures all established collateral circulation should be scrupulously protected; in this manner any procedure not completely successful will leave the involved limb or organ in a viable state. A second and self-explanatory principle is that all procedures should begin above and terminate below the obstructive processes. This is particularly valid in obstructions of the extremities in which good runoff is mandatory for the successful completion of the surgical procedure. Without an adequate channel of egress for the arterial stream brought down from above, the procedure will terminate in failure. Equally important and frequently overlooked is the necessity of having a good pulsatile arterial force above the proximal point of surgical intervention. Reconstructive operations in the extremities fail when a significant proximal partial arterial obstruction is overlooked in the aorto-iliac region. A third important aspect must be the selection of the type of procedure best suited to the existing pathologic process. The surgical procedures which can be utilized for restoration of arterial flow are endarterectomy, replacement of the diseased segment, or "bypass" operations. Each of these types of treatment in experienced hands offers the possibility of restoration of adequate circulation and slows the progress of the disease in a very large group of patients (figure 1).

(Continued on page 307)

Comparison of Thyroidal Function Tests

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IN RECENT YEARS the availability of several thyroidal function tests has brought about the concept of a composite battery of determinations to aid in the diagnosis of thyroidal dysfunction. Undoubtedly several different tests give more information than one test and give a somewhat better probability of getting a majority of the tests to mirror the actual clinical status of the patient. The necessity for a battery of tests implies that no one test gives all the information desired and that each test has an intrinsic "unreliability factor." With each increment of information added, generally an increment of cost is added. This increased cost is the prime disadvantage to the performance of a battery of tests in a given clinical situation. In the usual clinical practice a compromise is normally effected between degrees of information demanded from laboratory tests and the cost of this information.

An opportunity was afforded at the Radioisotope Clinic, Walter Reed General Hospital, to obtain various thyroidal function tests on 245 consecutive patients coming to this Clinic for evaluation of their thyroidal status.

Five varying methods of determining thyroidal function in these patients were utilized: (1) history and physical examination, (2) 24-hour radioiodine^{131} uptake, (3) serum protein-bound iodine^{127}, (4) erythrocyte uptake of radioiodinated *l*-tri-iodothyronine, and (5) photomotogram. A comparison of the degrees of clinically reliable information obtained from each of these tests follows.

METHODS

Two hundred and forty-five consecutive patients, each referred by consultation to the Radioisotope Clinic for further thyroidal function evaluation, were admitted to the study. Each patient did not necessarily have all four laboratory tests performed. Initially each patient underwent a history and physical examination. From these data a clinical impression was made, and this clinical impression was used to sort the patients into functional groups of euthyroid, hyperthyroid, and hypothyroid. All hyperthyroid patients displayed a majority of the classic signs and symptoms of hyperthyroidism: recent weight loss, goiter, nervousness and insomnia, persistent tachycardia, tremor, increased perspiration and heat intolerance.[1] All hypothyroid patients displayed a majority of the following signs and symptoms—pectoral muscular cramps, tiredness, cold intolerance, vocal deepening, loss of the lateral one-third of the eyebrows, and menstrual irregularities. Nine of the 25 hypothyroid patients had had prior total thyroidectomies for carcinoma of the thyroid. These patients received no exogenous thyroid medication for a minimum of one month prior to testing. Euthyroidism was determined by a lack of the signs and symptoms listed for the two groups above.

From the clinical appraisal, patients with acute or subacute thyroiditis or a history of diagnostic or therapeutic iodine loading (either inorganic or organic bound iodine) within six weeks prior to testing did not have their radioiodine^{131} uptake or PBI tests included in this series. Ten patients were in this category, and all were clinically euthyroid.

Radioiodine^{131} uptake was performed by having the patient drink 10.0 to 7.7 microcuries I^{131} (as NaI^{131}). Twenty-four hours after ingestion of this radioactivity a 0.75-inch diameter sodium iodide, thallium-activated, crystal was placed 15 cm. from the thyroid cartilage prominence perpendicular to the frontal plane of the body. A standard phantom with the same activity as the dose ingested by the patient was assayed each morning in a similar geometry. The 24-hour uptake was determined as

Per cent uptake

$$= \frac{\left\{\begin{matrix}\text{counts per}\\ \text{minute, thy-}\\ \text{roid, patient}\end{matrix}\right\} - \left\{\begin{matrix}\text{counts per min-}\\ \text{ute, thigh back-}\\ \text{ground, patient}\end{matrix}\right\} - \left\{\begin{matrix}\text{counts per}\\ \text{minute, natu-}\\ \text{ral background}\end{matrix}\right\}}{\left\{\begin{matrix}\text{counts per}\\ \text{minute,}\\ \text{phantom}\end{matrix}\right\} - \left\{\begin{matrix}\text{counts per}\\ \text{minute, natural}\\ \text{background}\end{matrix}\right\}}$$

All counts for this calculation were obtained the same morning.

The serum protein-bound iodine^{127} (PBI) was performed after the method of Thompson et al.[2] Particular care was given to chemical cleaning of all syringes and tubes used for receiving blood samples to insure no iodine or mercury contamination.

The erythrocyte uptake of radioiodinated *l*-tri-iodothyronine (T-3 test) was performed after the method of Homolsky et al.[3] Blood for this determination was obtained from the syringe used to obtain the PBI sample, and aqueous heparin was used as the anticoagulant.

The photomotogram was obtained by utilizing a Burdick photomotogram connected to a standard electrocardiogram. The tracing of the Achilles reflex was made on electrocardiographic paper at 25 mm./second. The time measurement of the photomotogram tracing spanned from the initial break from the baseline to a point on the projected baseline perpendicularly under a point one-half the height of the curve on the down slope (relaxation phase) of the tracing. These time measurements were expressed in seconds.

RESULTS

Figure 1 displays the results in 224 patients who underwent the 24-hour radioiodine uptake. The dotted lines represent the 95 percentile limits for euthyroidism.

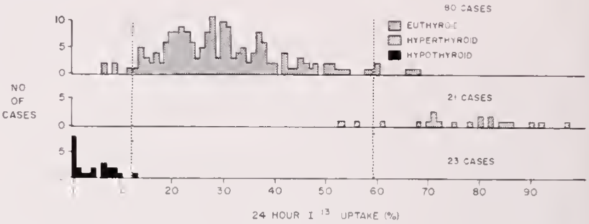

FIG. 1. Results in 224 patients who underwent the 24-hour radioiodine uptake.

In figure 2 are shown the results in 177 patients on whom PBI determinations were performed. The dotted lines represent 95 percentile limits for euthyroidism.

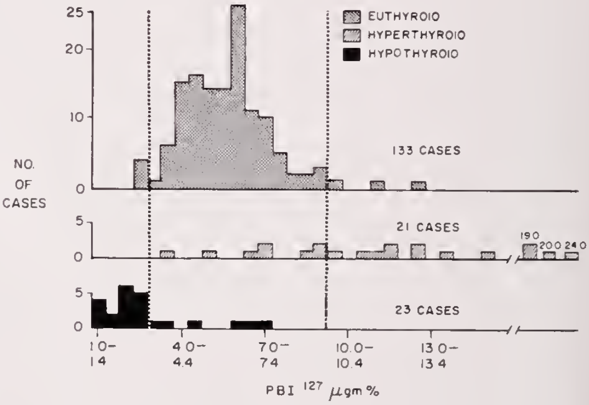

FIG. 2. Results in 177 patients on whom PBI determinations were performed.

The results in 142 patients undergoing the erythrocyte uptake of radioiodinated *l*-tri-iodothyronine are displayed in figure 3. The dotted lines represent 95 percentile limits for euthyroidism.

Figure 4 shows the results of the photomotograms done on 245 patients. The dotted lines define the 95 percentile limits for euthyroidism.

From the four figures, utilizing 95 percentile limits, the following ranges for euthyroid states were obtained:

Radioiodine uptake (24-hour): 13—59 per cent
Serum PBI: 3.0–9.4 micrograms per cent
Erythrocyte T-3 uptake: 12.3–22.8 per cent
Photomotogram: 0.22–0.38 seconds

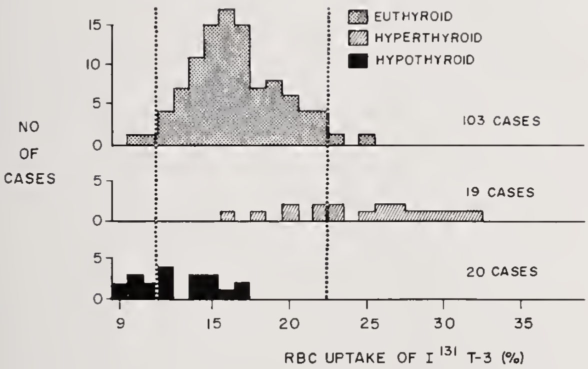

FIG. 3. Results in 142 patients undergoing erythrocyte uptake of radioiodinated 1-tri-iodothyronine.

Table 1 shows the percentage agreement of the four various thyroidal function tests with the clinical evaluation. The ranges of values for euthyroidism listed in the previous paragraph were used in this comparison.

TABLE 1

Percentage of Determinations Agreeing with Clinical Impression

	Hypothyroidism, %	Hyperthyroidism, %
Radioiodine uptake	91	96
PBI	62	74
T-3 uptake	35	68
Photomotogram	68	45

DISCUSSION

The four thyroidal function tests compared in this study assay different aspects of thyroidal physiology. The radioiodine uptake is a summation of iodine plasma clearance, thyroidal trapping from both intrinsic thyroid gland mechanisms and thyrotropic hormone stimulus, and storage of various iodinated amino acids and proteins and thyroidal hormone release. Clinically the grossest interferences with an accurate radioiodine uptake are thyroiditis and prior iodine loading for either diagnostic or therapeutic purposes. A thorough clinical appraisal is normally sufficient to predict the possibility of abnormal results of radioiodine uptake in these cases. Massive goiter, iodine-starved goiter, and nodular goiter can also give abnormal radioiodine uptake results because of uneven concentrations and rates of concentration in the thyroidal tissue. In this Clinic the radioiodine uptake has proved to be the most accurate thyroidal function test for both hypothyroidism and hyperthyroidism. Technically the test is easily and rapidly performed and is innocuous to the patient. It has the disadvantage of requiring radioisotopic facilities, and it demands that the patient return for a second visit 24 hours following the initial consultation.

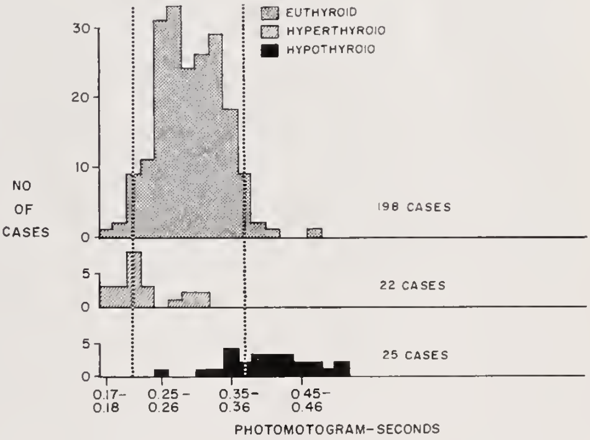

FIG. 4. Results of photomotograms done on 245 patients.

The serum protein-bound iodine^{127} is an expression of all the iodinated serum proteins and amino acids along with trace amounts of inorganic iodine that may be loosely bound to the serum albumin fraction. The determination is a reasonably specific one, but it cannot differentiate between exogenously acquired and endogenously produced iodinated compounds. Great care must be exercised that there is no iodine contamination along the chain of sample collection to sample processing. Equal care must be expended in ascertaining prior iodine loading of the patient for either diagnostic or therapeutic reasons to avoid spuriously high results. Prior use of mercurials two to three days before obtaining the blood sample can lead to spuriously low results because of mercuric ion interference with chemical reactions of the determination. The PBI has the advantage of not requiring the use of radioisotopes. It has the disadvantage of requiring highly expert laboratory skills. In this Clinic the PBI has not proved as reliable as the radioiodine uptake in agreeing with the clinical status of the patient's thyroid function. In this series the PBI predicted the hyperthyroid state better than the hypothyroid state. The reason for the degree of overlap of the tests in the two abnormal states into the euthyroid range is not readily apparent, but this overlap should be appreciated in appraising the PBI. The range of values of the PBI for the euthyroid state is wider than is generally published. This variance with the published results may be an expression of patient selection or of performance of the laboratory determination. It is exceedingly important to appreciate the ranges of normal values of the PBI from each different laboratory.

The erythrocyte uptake of radioiodinated *l*-tri-iodothyronine is a comparatively new test of thyroidal function. The mechanism of this test appears dependent upon thyroidal and at least two extrathyroidal parameters: (1) the serum proteins and (2) the circulating thyroidal proteins at the time of the test. This test can be greatly affected by several systemic diseases which generally induce changes in the serum proteins or the erythrocytes.[4] The test appears to be exceptionally sensitive to minor changes in laboratory technique, and rigid standardization of the technical performance is mandatory. The determination requires a radioisotopic facility.

The range of values of the T-3 test for euthyroidism in this series is higher at the upper limit of normal than previously published. This widened range of normal may be due to patient selection or the presence of disease other than apparent thyroidal dysfunction. As in the case with the PBI a knowledge of the limits of normal of this test from each reporting laboratory is required before accurate clinical correlation can be attempted.

Four of the seven post-thyroidectomy patients had T-3 tests in the euthyroid range although all were clinically hypothyroid after having not received desiccated thyroid for one month. The complete eradication of the circulating peripheral stores of exogenous thyroid may not be accomplished in one month, and this may be partially responsible for the higher than expected results of the T-3. In each of these seven patients the PBI was in the hypothyroid range, suggesting that the major stores of circulating thyroidal hormone have been depleted within one month. In the specialized situation of post-thyroidectomized patients who are clinically hypothyroid the PBI appears to mirror the clinical status of these patients better than the T-3 test.

The physical diagnostic sign of slow muscular relaxation in reflex testing in hypothyroidism is an axiomatic clinical fact of proved value.[5, 6] The electronic recording of this reflex time has been securely proved,[7, 8] and now can be easily accomplished with a minimum of equipment. This test can be accomplished in a matter of one to two minutes with a minimum of discomfort to the patient. The photomotogram appears to be the second most reliable test in predicting hypothyroidism of the four tests compared in this series. In hyperthyroidism the degree of overlap of the results of the determination into the euthyroid range rendered the photomotogram less helpful in this situation than any of the other tests. Other than demonstrating a degree of lack of specificity in the hyperthyroid state, the photomotogram has no major disadvantages. The photomotogram offers valuable clinical information in situations where the other tests are not easily available.

SUMMARY

From the number of various determinations done on this series of patients the 24-hour radioiodine uptake test proved to be the most reliable thyroidal function test in agreeing with the clinical impression. This test is simply performed and safe and nontraumatic to the patient, but it requires radioisotopic facilities which are demanding of special care, special equipment and special training of the users. The PBI displayed less accuracy than the radioiodine uptake in aiding in the diagnosis of thyroidal dysfunction. The erythrocyte uptake of radioiodinated *l*-tri-iodothyronine proved of little aid in the diagnosis of hypothyroidism in this series of patients but was as accurate as the PBI in defining hyperthyroidism. The test requires radioisotopic facilities and most stringent laboratory techniques. The photomotogram is of benefit in the diagnosis of hypothyroidism and provides a permanent record of this clinical sign. Hypothyroidism appears to be more difficult to diagnose than hyperthyroidism with only laboratory tests, but the photomotogram is a valuable adjunct in the hypothyroid situations.

The intelligent and thorough historical and physical examination still remains the bulwark of the diagnosis of thyroidal dysfunction.

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Skull Surgery by Prehistoric Man*

Part I

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During the transition from the paleolithic to the neolithic period, with the expanding art of chipping, flaking and shaping of flints and stones giving man more ingenious sharp-edged, pointed weapons and tools for defending himself, obtaining and storing food, as well as making more instruments, we have the earliest evidence of a daring surgical operation. Thus, before more advanced civilization developed in the river valleys of the Nile, Tigris, Euphrates and Indus from the tenth to the fifth millenium B.C. neolithic man roamed the western parts of Europe and left behind the single impeccable sign of prehistoric medical practice—trepanation of the skull. Many skulls of their dead show the presence of carved holes, the margins of which have signs of healing. Sir William Osler[1] referred to this as "the oldest existing evidence of a very extraordinary practice" in primitive medicine, and T. D. Stewart[2] describes such trephining as "one of man's most courageous humanitarian efforts." Sigerist[3] thinks that splinting of broken bones was done at an earlier date but agrees that there is no proof of this.

Although such skulls had been found in France in the 17th and early 19th centuries, their significance was not known, and the defects were always thought to be due to trauma. Prunières[4] in 1874 was the first to recognize that these openings in the neolithic skulls were actually trephinations and examples of the most ancient known operation. He presented about a dozen skulls with holes, some of which unquestionably had been made during life and showed healing. Gordon[5] states that as high as 2.5 per cent of the prehistoric population exhibit evidences of skull trephining, and Courville[6] puts the figure at almost 5 per cent of extant skulls. As will be seen later, Peruvian excavations demonstrate an even higher percentage.

In one of the more comprehensive treatises on this subject, Guiard[7] states that the practice of trephining originated near the Mediterranean in Europe and North Africa only 5,000 or 4,000 years ago during the time of the megalithic constructions. Most authors, however, place the operation's beginnings further back in history. Prehistoric trepanation was widespread, although apparently absent from Australia (it is found in New Zealand), the Malay Peninsula, Japan and China (a skull has been found in Siberia).[8] In a classic book on this subject Lucas-Championnière[9] states that of the tens of thousands of ancient Egyptian skulls unearthed not a single one bears signs of therapeutic surgical intervention. Likewise, no evidence is present that it was known in India.

Trephined skulls also provide the earliest evidence of medical activities in the New World Stone Age, from the Mochica and Chimu civilizations along the Western South American coastline (500 B.C.) until the coming of the white man in the 16th century. The primitive operation reached its highest development in Stone Age Peru of 1,000 to 2,000 years ago.

The extensive distribution of skull trephining in the American continents, with its existence on the Northwest Coast as far north as the Kodiak Island in Alaska, speaks strongly for its Asiatic transmission.[10] The highest development of the operation, as well as its greatest frequency, was reached in the highlands of Peru and Bolivia. This may be due to the constant warfare of the population, in which they used clubs, pointed maces, and sling shots, producing a multitude of head wounds. Many of these were not fatal and could be relieved by removing the indented or broken bones from the wound and trimming the opening.[10] Indians elsewhere used darts and arrows in their fighting, and consequently such head wounds and operations were far less common.

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* This article is being published in two parts, of which this is Part I. Part II will appear in the July issue of the Medical Annals.

Two types of operations to open the skull were performed by the Peruvians. There was the mere boring of a hole (perforation) or the removal of a piece of bone by cutting around it with a saw-like instrument, scraping, etc. (trepanation or trephination). Contrary to what might be expected from the nature of the instruments at the disposal of primitive man, trephination rather than simple perforation was the process usually employed. The Squire skull, from the valley of Yucay, near Cuzco, Peru, was actually the first prehistoric operation to be recognized,[11] although the specimen was not as old as those described later by Prunières from France. This first Peruvian skull clearly demonstrated that a square bone fragment had been sawed out of the left frontal bone. Squire sent the specimen to Paul Broca, the famous French anthropologist and cranial surgeon (whose fame is associated with the brain speech area or convolution bearing his name), and the latter reported it in 1867.

The earliest surgical instrument was, in all probability, some fragment, unusually sharpened on edge and point by accidental flaking, as in the obsidian knives of Peru.[12] These pieces of hardened lava or volcanic glass apparently preceded the chipped, leaf-shaped flint knives (eoliths or celts) which are associated with prehistoric man. These have been excavated from the river-drifts of England, France and North America, in the caverns of Devonshire and the Dordogne, in the plains of Egypt and Israel, and in the frozen tundra of Siberia and Alaska, always carved in the same form.

Among the skulls turned up by a Yale expedition in Peru is one showing five circular openings of which two are certainly healed.[13] These healed sites are placed in juxtaposition over the left side of the frontal bone, extending along a line from the external angular protuberance toward the midline and parallel with the coronal suture. One of the three remaining holes is placed near the lambdoid suture on the right, another just above the right parietal bone, and the third, very dangerously, directly over the sagittal suture, with its anterior edge located about 2.5 cm. from the junction of the sagittal and coronal sutures. All the openings average about 2 cm. in diameter and are quite symmetrical. Earlier, Muñiz and McGee[14] demonstrated a skull showing multiple openings, one of which is at the junction of the sagittal and coronal sutures, one over the left parietal boss, and a third on a line with the other two but situated farther caudally. The latter two openings show extensive evidence of healing, but the anteriormost one, probably done several years later, has no healing and apparently resulted in the individual's demise (figure 1a).

Skulls have been found with holes at almost any site in the cranial vault, but the left parietal region was the most common site.[15] Multiple sites of trepanation are not uncommon, and at least one Peruvian skull has five distinct openings.[16] Selwyn-Brown[17] states that trephining has been done on a single person seven and eight times (figure 2). Previously fractured skulls are almost invariably opened but once and show a single healed operative opening. However, many that show no evidence of previous trauma bear numerous healed openings. The trephined skulls found in France usually have a single opening, although a small number have multiple

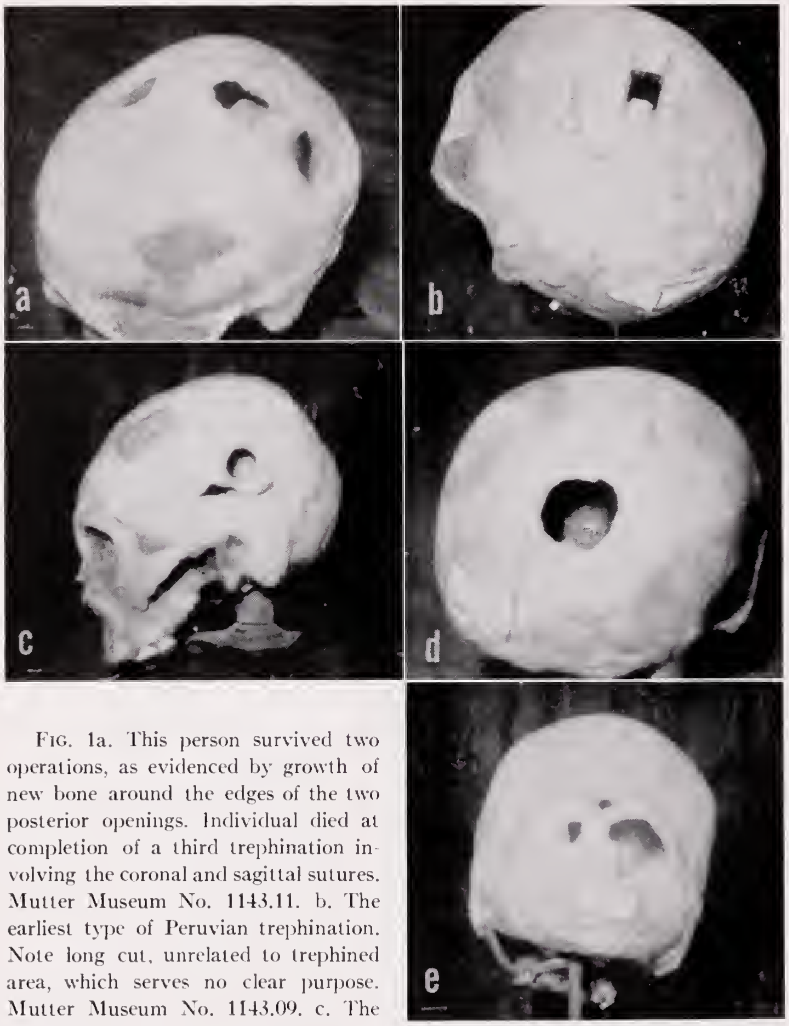

FIG. 1a. This person survived two operations, as evidenced by growth of new bone around the edges of the two posterior openings. Individual died at completion of a third trephination involving the coronal and sagittal sutures. Mutter Museum No. 1143.11. b. The earliest type of Peruvian trephination. Note long cut, unrelated to trephined area, which serves no clear purpose. Mutter Museum No. 1143.09. c. The second or circular type of trephining (there was some scraping here also). A compound fracture is present in the operative site. As in figure 1b, there was no healing and the person died. Mutter Museum No. 1143.00. d. The third type of operation was performed by moving a flat stone or obsidian in a circular motion until a hole was scraped through the skull. Mutter Museum No. 1143.02. e. Skull from near Cuzco, Peru, revealing old trephination of occipital area. It is no longer possible to determine the type of operation done, due to extensive healing and scarring. Mutter Museum No. 1143.15.

openings. The mastoid area is apparently the only site not trephined in any culture. In general, the Peruvian operations involved the removal of much more bone than the older European ones.

In contradistinction to earlier belief, Rogers[18] thinks that the victims almost always recovered, frequently without any permanent signs of osteomyelitis. The high percentage of healed openings and skulls with new growth of bone about the edges makes this almost certain. The implication is that the dura itself was not deliberately opened and primitive man apparently realized the danger associated with interference of the dura. Although rare, there were some operations directly above the venous sinuses; some of these were even successful.[10]

The very high percentage of recoveries that Rogers[18] reports suggests that the operation was not primarily used in cases of head injury, or was used only in minor injuries. A discussion of the reasons for the procedure will be found later in this paper. Two widely regarded native South American reporters list the mortality for these operations as 34.5 per cent (Tello[19]) and 10.5 per cent (Weiss[20]), which is astonishing in view of the extensive nature of some of the Peruvian procedures.

Table 1 shows the types of opening of 75 Peruvian skulls.

There is evidence that trephining was also done on the cadaver.[16] Often this was done on someone who had previously been subjected to the operation. Perhaps it was thought that one who had been trephined during life might have become magical, and more sections of skull were removed to serve as amulets. In many cases it is quite difficult to differentiate between surgical and postmortem trephining in these prehistoric skulls. Recently Schröder[21] used radiologic methods to thoroughly examine three such unearthed skulls with fractures but still found that judgment be-

TABLE 1

Distribution of 75 Trephined Skulls in United States National Museum by Locality and Type of Opening[2]

Locality in Peru	Angular opening made by straight cuts	Circular opening made by cutting or scraping	Opening made by drilling a series of small holes	Area of vault scraped down to inner table	Method of trephining obscured by healing
CENTRAL COAST					
Ancon			1		
Pachacamac		1			
CENTRAL HIGHLANDS					
Chulec-Oroyo		2			
Cinco Cerros	18	3			12
Huarochiri	8	5	1		1
Lupo		1		1	
Matucana					1
San Damian	4	1			3
Tarma	1				
Tarmatambo		1			2
SOUTHERN COAST					
Cañete	1				
Chilca					1
Lomas		1			
SOUTHERN HIGHLANDS					
Cuzco		2		1	1
UNKNOWN		1			
TOTALS	32	18	2	2	21

tween antemortem and posthumous trephining must often be reserved. Thus there may have been even more survivals than present estimates.

The first extensive American study of this subject was by Muñiz and McGee[14] in 1897. Muñiz was Surgeon-General of the Peruvian Army and had excavated 100 prehistoric skulls, 19 of which were trephined. He exhibited them at the World's Congress of Anthropology, held in connection with the Columbian Exposition in Chicago in 1894. At that time several sets of plaster casts of the collection were made by Lancey W. Gill, of the Bureau of American Ethnology.[22] Through Dr. Guy Hinsdale, one of these sets was purchased in 1894 for the Mutter Museum of the College of Physicians of Philadelphia, and these are numbered 1143.00 to 1143.18.[23] Five specimens came from the vicinity of Cuzco, 11 from Huarochiri and surroundings, and one each from Tarma, Pachacamac and Cañete.

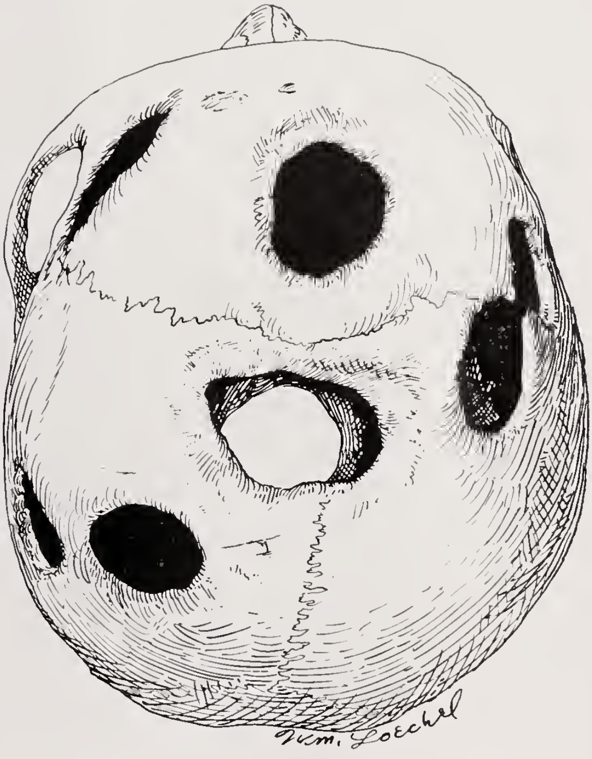

FIG. 2. Skull from Cuzco, Peru, showing seven separate trephinings. British Museum (Nat. Hist.) No. 1956.10.10.1.

The skulls of the Muñiz collection show three types of operations.[24] In one type (figure 1b), probably the earliest, a pointed bit of stone or obsidian was used to make four linear incisions in the skull, in parallel pairs that intersected at right angles. American Indians are known to have produced incisions in bone in this way, so that this suggestion gets added strength. The operation was crude, and each incision extended perhaps half an inch beyond each edge of the rectangle of bone removed. There is nothing to suggest that this type of operation was followed by survival. In one of the skulls, apparently representing an offshoot of this type, nearly four square inches of bone was removed and there were no less than 20 distinct oblique and other incisions about the margin of the aperture.

A vertically held, rudely pointed instrument, perhaps of stone, was also used in the second type of procedure (figure 1c). However, after the inner table was reached, the site of incision was moved forward and the direction of sawing changed, so that an elliptical button of bone was removed.

The third type of operation was performed largely by scraping and grinding away the outer table and diploë until the inner table was reduced to a feather edge. One of these skulls is illustrated in figure 1d.

Figures 1a and 1e show trephined sites in which there are spicules of reparative growth and partial absorption of the outer table and diploë, indicating that the individual survived.

Several of the Muñiz skulls indicate that the operation was done to relieve depressed fractures of the skull. Figure 1c represents one of these; others are 1143.04, 1143.13 and 1143.18. In another specimen (1143.03) a remarkably small area of bone was removed by the first procedure. The surrounding bone exhibits a spongy texture indicating a diseased condition, and McGee[24] hypothesizes that the operation was done to liberate the evil spirits supposedly causing the symptoms. Primitive American Indians held similar beliefs. It is difficult to think of any other rationale for such a tiny opening. However, this is the only example in the collection indicating trephining was thaumaturgic. The other skulls were either operated upon on fairly sound therapeutic grounds or had no evident purpose at all. A summary of the locations and types of operation in this collection are seen in figure 3.

In Peru as in Egypt, climate and custom have both conspired to leave these and other important archeologic deposits. Rytel[25] is of the opinion that the Peruvian trephining is so far advanced that it is wrong to consider it analogous to the neolithic European procedures.

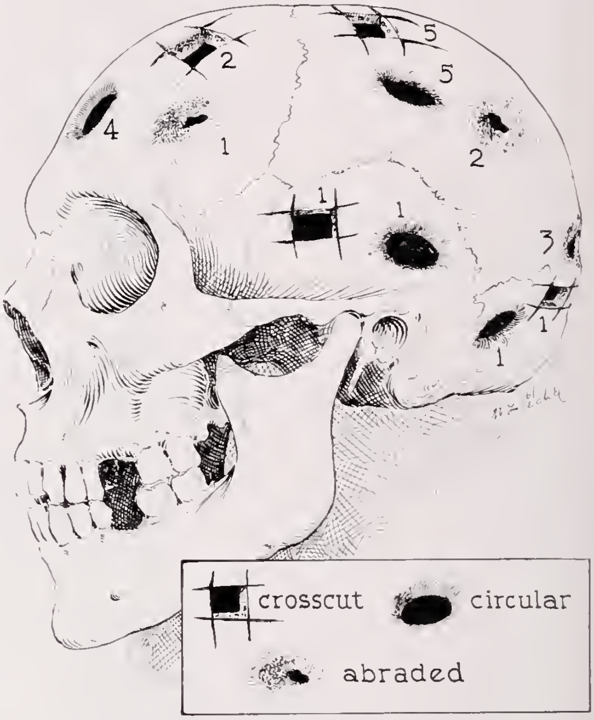

FIG. 3. Locations and types of surgery in 26 trephinations on 19 skulls in the Muñiz collection. Procedures were predominantly on the left side of the crania.

In discussing the Muñiz collection, W. J. McGee, of the Bureau of American Ethnology, states the most important conclusions are:

1. That the operation was antemortem, since five individuals out of the 19 certainly, and two or three more probably, survived one or more operations, and

2. That the trephining was surgical.

Two provisional conclusions can also be made:

3. That the operation was used in a medical way to relieve a general pathologic condition, and

4. That the operation was, as indicated by the total absence of marks of metallic instruments,

anterior in date to the Spanish invasion and thus essentially prehistoric.[24]

The trephining operation preceded chronologically from rectangular, through polygonal to circular openings, the latter then being made by rotary scraping away. Skulls found after the Muñiz collection indicate a further evolutionary trend in the technique. Thus, skulls have been found in which a series of round hollows, limiting the circular opening, are joined by curved incisions.[25] This last type is not common.

Graña, Rocca and Graña[26] recently reported on a large series of 250 trephined Peruvian skulls. The left side was involved in 161 instances, the right in 71, and both sides in 83 operations. About 25 per cent of the cases had perforation only of the outer table of the skull. Males predominated over females by 4 to 1, as in most other series. Their findings, as far as the shape of openings is concerned, are recorded in table 2. In a series of 112 Peruvian operations Stewart[27] found 48.2 per cent on the left side, 29.5 per cent on the right side, and 22.3 per cent in the midline. More specific locations of operations in this series are shown in table 3.

TABLE 2

Forms of Trephined Area in 250 Skulls[26]

Circular	194
Triangular	40
Oval	26
Irregular	20
Rectangular	6
Polygonal	4
Quadrangular	3

The practice was common among both the broader (Quechu) as well as the narrower-headed (Aymara, etc.) Peruvians, but especially among the latter.[10] Apparently the broad-headed Yungas of most of the Peruvian coast did not trephine. The operation was also fairly common in Mexico and to a lesser degree throughout the Western Hemisphere. The angular type of trephine opening appears to have been favored in Central Peru, whereas skulls from the South generally have a circular type.[2] The procedure in which an area of skull surface is scraped away is uncommon except at Paracas. Trepanations performed by drilling a series of holes are rarest and known mainly from the central areas. Trephined skulls range from children aged about five years to elderly people. However, there are no examples in infants and no fresh ones in senile crania.[10]

TABLE 3

Distribution of Trephine Openings in Peruvian Skulls (Tello Collection, Peabody Museum, Harvard University)[27]

Location	No. of Cases		Percentage
Frontal area:			
Frontal bone	26	60	53.6
Crossing right coronal suture	9		
Region of bregma	12		
Crossing left coronal suture	12		
Extending from frontal to temporal	1		
Parietal area:			
Right parietal bone	3	37	33.0
Crossing sagittal suture	15		
Left parietal bone	18		
Extending from parietal to temporal	1		
Occipital area:			
Occipital bone	4	15	13.4
Crossing right lambdoid suture	2		
Region of lambda	7		
Crossing left lambdoid suture	1		
Extending from occipital to temporal	1		
TOTAL	112		

Lucas-Championnière[9] a number of years ago showed that a skull could be trephined with sharpened prehistoric flints in 35 to 50 minutes. He describes performing such a procedure on a 35-year-old female cadaver in little more than a half-hour. Still more interesting is the actual craniotomy on a living patient, employing only the actual instruments used by the ancient Peruvian surgeons, by a team of outstanding

Peruvian neurosurgeons in 1953.[26] The patient had a diagnosis of subdural hematoma of traumatic etiology accompanied by a syndrome of left hemiplegia and aphasia. The only anesthesia was band constriction around the frontal and temporal areas. Their operation was a complete success.

Tello[28] between 1925 and 1930 excavated the tombs of the Paracan peninsula, located almost 100 miles south of Lima on the sandy Peruvian coast and found evidence of a highly civilized people not even mentioned by the pre-Columbian writers. Although they left no written records, their fardels or cloth coffins contained fine wool and cotton material and luxurious clothes, beautifully embroidered in many colors. These people had an advanced degree of industrial development, as indicated by pottery, baskets, bone and stone articles.[15] Over 90 per cent of the skulls found in this small area were deformed and showed evidence of surgical treatment. Most trephination here was made by the scraping or third method. The oldest Paracan skull is from 3,000 B.C.[25]

Almost all of the Paracan skulls show evidence of artificial cranial deformation, usually done by bandaging of babies' skulls. Although there is absolutely no known relation between this procedure and trephination, Walker[15] makes an interesting hypothesis. Convulsive attacks perhaps were produced during later life as a result of cerebral herniation, scarring, etc., from the skull deformity, and, therefore, the trephinings were done for the epilepsy.

Wakefield and Dellinger[29] think that whenever and wherever the first human skull was trephined the operation was performed for one of the following reasons:

1. To permit the entry or projection of something into the body of the victim.
2. To permit escape of, or to take from the body, some object or spirit.
3. To combat sorcery.

Evidence has accumulated that the earliest Peruvian trepanations were done for human sacrifice, i.e., to permit something to enter the victim's body.[29]

Castiglioni[16] states that the operation owes its origin "without doubt to a demonic or magic concept more than to the idea of therapy." On the other hand, Hrdlička,[10] after many years of studying this subject, believes that the operation was not of a magical nature but represented an attempt to cure wounds and other painful afflictions of the head. Although many skulls operated on show evidence of previous injury or fracture, not all do. Indeed, the majority do not and are intact other than for the trephinations.

(References for both Part I and Part II will be listed at the end of Part II.)

Intralesional Injection of Triamcinolone Acetonide in Localized Dermatoses

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THE ADRENAL CORTICOSTEROIDS have proved to be of great value in the treatment of various dermatoses. This is especially true in acute conditions of short duration in which there need be no concern with the inevitable effects of prolonged administration. On the other hand, they have been valuable also in the treatment of life-threatening chronic conditions such as pemphigus and systemic lupus erythematosus and in disabling dermatoses such as severe atopic eczema, widespread psoriasis and exfoliative dermatitis, in which the therapist knowingly accepts the complications of long-term administration in order to save life or to make life livable for the patient.

This leaves a considerable number of dermatoses which are known to respond favorably to the corticosteroids but for which their administration is not justified because they are neither life-threatening nor disabling, because they are localized to only one or a few sites on the skin, or because large doses of corticosteroids are required to be efficacious. Many of these dermatoses have no other consistently reliable modes of therapy and are a strain upon both the physician's skill and the patient's patience. Often, locally applied corticosteroid preparations are of no value.

It is in this group of skin conditions that the intralesional administration of corticosteroids has lately been proving its worth.

In the past year I have been treating various localized cutaneous lesions by injecting into or just below these lesions a suspension of triamcinolone acetonide. Triamcinolone was selected because it was demonstrated by Cohen and Baer[1] in 1960 that intradermally injected it produced larger zones of clearing in psoriatic plaques than other cortisone analogues similarly administered. A relatively insoluble preparation, i.e., a suspension, is necessary in order to provide a high concentration of active drug at a fixed point. Soluble preparations are not suitable since they are rapidly dispersed, producing systemic effects (in sufficient dosage) and no local benefit.

MATERIALS AND METHODS

The material used was triamcinolone acetonide aqueous suspension,* available in 5 c.c. vials, each c.c. containing 10 mg. (1 per cent suspension). With a 1 c.c. Luer-Lok tuberculin syringe attached to a 25-gauge 0.5–1.5 inch needle the thoroughly shaken suspension was injected from the side directly into the elevated or indurated lesion. When extreme resistance to the infiltration was encountered or when the lesions were flat and relatively large, the suspension was injected subcutaneously at as superficial a level as possible. Small lesions were injected through one puncture site and larger patches through multiple punctures along the periphery or within the confines of the lesion.

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* Produced as Kenalog Parenteral and furnished through the courtesy of John T. Groel, M.D. of the Squibb Institute for Medical Research, New Brunswick, New Jersey.

The usual dose was 0.1 to 0.3 c.c., sufficient to cause a slight elevation of the skin but not enough to cause a tense, blanched nodule. When multiple sites were injected the total dosage at one session did not exceed 3.0 c.c. The interval between injections was one to two weeks in most cases. The total number of injections varied from one to three per lesion, and up to six in a few keloids.

Since the suspension itself causes little or no pain, no local anesthetic was instilled except in patients with a low threshold of pain and in those in which the lesion was tender on pressure. In these a pool of 1 per cent procaine or other suitable local anesthetic was injected subcutaneously prior to the administration of triamcinolone.

Results

As table 1 demonstrates, there were 57 good and 26 satisfactory results in a total of 83 patients. This does not mean that all patients will show either a good or satisfactory result. It happens to be true in this series chiefly because these patients were carefully selected as being those most likely to respond to this form of treatment.

It was especially gratifying to find that localized patches of psoriasis, a chronic disease without specific therapy, were invariably benefited by triamcinolone injection. It is, of course, not practical to treat widespread psoriasis by this method. Equally welcome were the good results in localized neurodermatitis, nummular eczema, acne cysts, lichen planus, and granuloma annulare. The good response obtained in the keloids in this series may be due in part to their short duration. A large keloid of 10 years' duration currently under treatment is not responding as well as the early ones included in this series. Further observation is necessary for a final evaluation of this condition, as it is, in fact, for all the conditions enumerated. In all patients, when pruritus was present, it vanished within a day or two.

These results are, with minor variations, in line with other published reports[2, 3] dealing with this form of therapy. A notable omission in this series is alopecia areata, a condition which has shown fair to good results in other series. I have omitted these cases because insufficient time has elapsed to allow of a proper evaluation.

Complications

Immediately after injection of triamcinolone there was observed in a few instances a puffiness of the treated area, sometimes accompanied by local discomfort but lasting only up to a few hours. Sometimes, on resolution of a large patch, an erythema without pruritus persisted up to two weeks. This is of no consequence but may be avoided by injecting the suspension in a diluted form, with saline or procaine solution as the diluent. This, however, increases the healing time.

Local cutaneous atrophy occurred in four of the 83 patients in this series, three of them on the face and one on the arm. Those on the face returned to normal within three months; the one on the arm has been present for six months but is still improving. The atrophy is seen as a depression in the skin, the epidermis remaining normal in appearance. The degree of atrophy varies proportionally as the amount of suspension injected at a given point and the depth of the injection. The avoidance of this temporary complication depends upon the injecting of small amounts at any given point, and upon maintaining an intradermal level.* On the other hand, a "tense" injection which

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* In selected cases the suspension is deliberately injected *sub*cutaneously[4] since at this level larger areas of involved skin are improved. In such instances it is wise to use a diluted suspension and to massage the lesion so as to insure an even distribution of the medication.

TABLE 1

Results in 83 Patients Treated with Triamcinolone

Diagnosis	No of Patients	Good*	Satisfactory†	Comments
Acne cysts	15	12	3	Involution began in 2–3 days, with flattening within a week; 3 lesions required 2–3 injections.
Discoid lupus erythematosus	10	3	7	Good early response but recurrent in most cases. Temporary atrophy at injection site in 3 patients (face).
Granuloma annulare	3	3		Prompt clearing in all. One patient had a minor recurrence which responded to reinjection.
Insect bites:				
Acute	1	1		Prompt resolution in both.
Granuloma	1	1		
Keloid	5		5	3–6 injections flattened the keloids to skin level but left dusky red patches, some with telangiectases, which may improve further with the passage of time. All cases of recent origin (up to one year).
Necrobiosis lipoidica with ulceration	1		1	Ulcerations heal but new ones keep appearing. Maintenance therapy (an injection every 1–6 weeks) is required.
Neurodermatitis, localized:				
Lichen simplex chronicus	19	15	4	Complete clearing, promptly, in most cases. A few required retreatment.
Prurigo nodularis	3	3		
Nummular eczema	4	4		Prompt clearing. One patient required 3 injections in 2 persistent sites.
Lichen planus, hypertrophic	2	2		Cleared after 1 injection. Persistent dusky erythema is slowly subsiding.
Pretibial myxedema	1	1		Dramatic clearing in a condition previously recalcitrant to all measures.
Psoriasis	12	10	2	Both recent and chronic patches disappeared after a single or multiple injections and did not recur for 4–10 months. A sternal patch in 2 patients keeps recurring. Temporary atrophy in 1 patient (arm).
Sebaceous cyst	4		4	1–3 injections caused flattening of lesions to skin level or nearly so. Cysts are still present but not disfiguring.
Synovial cyst	2	2		Prompt disappearance after 1 injection.
TOTALS	83	57	26	

* Good: Relief of itching with rapid or slow clearing of lesions.

† Satisfactory: Same, but leaving some objective evidence of the preëxisting lesions.

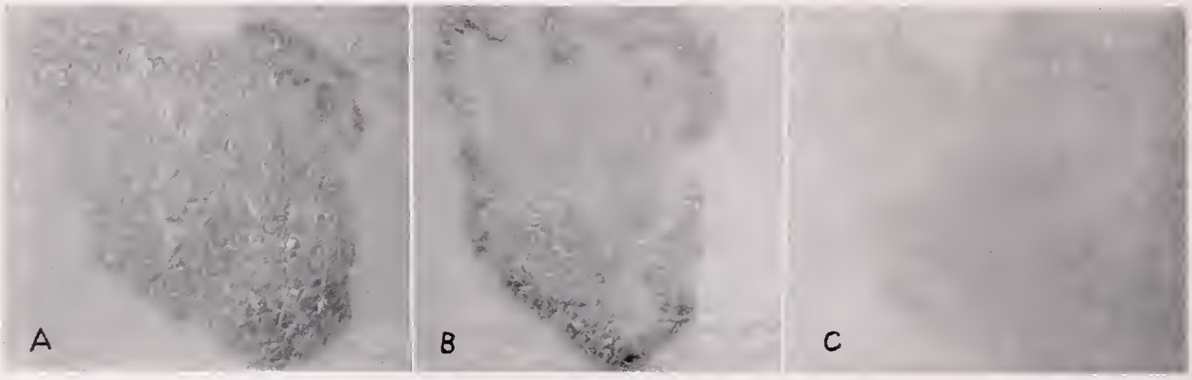

FIG. 1. Patch of psoriasis (4 by 4 inches) on abdomen: A—before treatment; B—one week after intralesional injection of triamcinolone suspension; C—one week after second injection into the surviving segments.

impinges upon the under surface of the epidermis, i.e., a too superficial injection, has been reported to produce a small slough of the skin at that point.[5] The intradermal injection technique is simple, but, as with other techniques, skill is acquired with experience.

Residual hyperpigmentation has been described elsewhere[6] but was not encountered in this series. Prolonged menstrual bleeding was experienced by six women in Hollander's series[7] of 230 patients, but a normal menstrual cycle was restored in every case shortly after completion of the injections. Some of these patients were treated again after an interval of several weeks without recurrence of menstrual disturbance.

With the possible exception of menorrhagia, there have been no specific systemic side-effects from intradermally administered triamcinolone noted in this or in other reports. The possibility exists, of course, but seems to be a remote one.

There are two isolated reports[8, 9] of cramping pains in the lumbar region, thigh and hips occurring suddenly in two patients 5 to 10 minutes after a local injection, subsiding within 10 to 15 minutes. One of the authors presumed that some of the suspension might have been injected into a vein, creating tiny distant emboli, apparently of short duration. This rare type of reaction can, I believe, be avoided by inserting the needle to the furthest point in the skin desired while maintaining negative pressure on the plunger of the syringe until that point is reached. The suspension is then injected slowly and evenly while the needle is being withdrawn.

The only absolute precaution to be taken is to avoid injection of the steroid into or near lesions which are obviously or presumably infected. It goes without saying that an accurate diagnosis is necessary in order to know which dermatoses are amenable to this form of treatment.

ILLUSTRATIVE CASES (Figs. 1, 2, 3.)

Case 1. A 55-year-old man with chronic pruritic patches of psoriasis located on the extensor aspects of the forearms was the first patient in this series. As a test procedure, 0.2 c.c. of triamcinolone acetonide suspension was injected into the dermis in the center of an 8 by 15 cm. patch. After a few days, itching ceased in the entire patch and a round area of clearing about the size of a nickel appeared at the injection site. Thereafter he was injected at different sites with 1–3 c.c. amounts every week for four weeks until both forearm patches were apruritic and clear. Mild erythema at each injection site faded after 3–5 days. The psoriasis of the forearms has not returned after ten months. One small sternal patch of psoriasis, however, has recurred every three months and has been injected three times to date.

Case 2. A 60-year-old man complained of chronic thickened eczema of the left central palm associated with pruritus and recurrent painful fissures of 15 years' duration. Treatment elsewhere was unsuccessful. The only treatment he had not had was triamcinolone intralesionally. Injection was, therefore, made. One week later he was elated at the disappearance of pruritus and the thinning of the patch. Three weeks later he remarked that he was seeing the normal lines of his palm for the first time in 15 years. There has been no recurrence in three months.

Case 3. A 55-year-old woman complained of an intolerable itch of the scalp, the examination of which showed eight small excoriated and crusted nodules—prurigo nodularis, a form of localized neurodermatitis. No form of treatment over the past five years had had the slightest beneficial effect. Local therapy and tranquilizers prescribed by me was equally unsuccessful. After local and systemic antibiotics had been administered to ensure the absence of local infection in the lesions they were individually injected with 0.05 to 0.1 c.c. of triamcinolone acetonide. The following day she had the first night of undisturbed sleep in several years. The location of each lesion was carefully mapped and they have not returned in six months. A new nodule develops from time to time and responds to injection equally well.

Case 4. A 65-year-old schizophrenic woman seen at St. Elizabeths Hospital had had a patch of lichen simplex chronicus involving the whole extent of the ulnar aspect of the right forearm for three years. She persisted in excoriating the patch in spite of the application of various corticosteroid lotions, creams, ointments, sprays, and other preparations. Occlusive bandages were torn off by the patient within several hours. As a last resort 0.5 c.c. of triamcinolone suspension was injected into the center of the lesion. Two weeks later the entire patch was devoid of excoriations, erythema and thickening, with only a superficial grayish dryness of the skin left. Further injections were not deemed necessary, pending further observation.

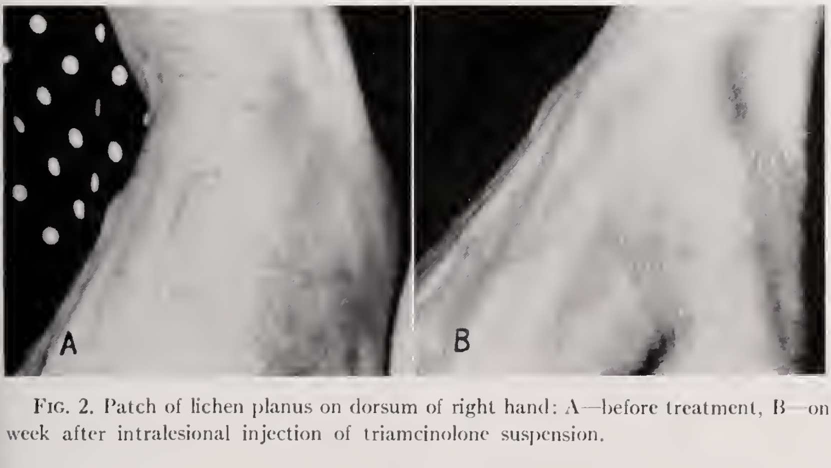

FIG. 2. Patch of lichen planus on dorsum of right hand: A—before treatment, B—one week after intralesional injection of triamcinolone suspension.

Case 5. A 38-year-old man, following thyroidectomy because of diffuse toxic goiter, developed massive pretibial myxedema. Various attempts at therapy were unsuccessful and he was advised to live with it. When triamcinolone suspension became available it was used intralesionally. Two injections in one leg and three in the other flattened the lesions to skin level. They have remained so for more than six months.

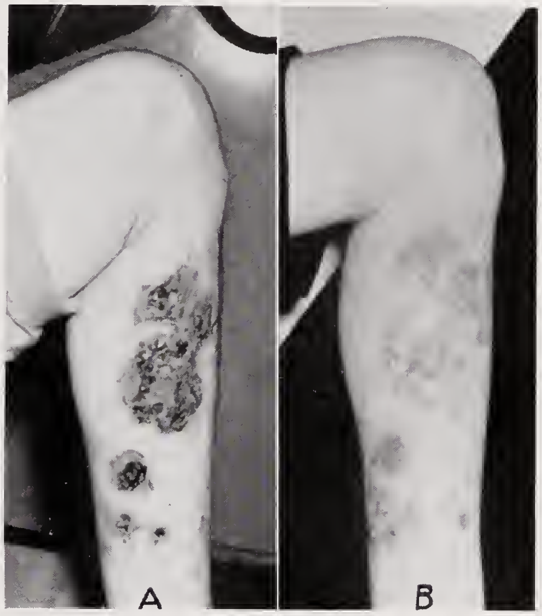

FIG. 3. Necrobiosis lipoidica with ulcerations, left leg: A—before treatment, B—six weeks after multiple injections of triamcinolone suspension. The ulcerations are closed.

SUMMARY AND CONCLUSIONS

Eighty-three patients with various localized dermatoses were treated by intralesional injection of triamcinolone acetonide. In this selected series all patients showed a satisfactory or good response. Especially gratifying were the results in patients with localized patches of psoriasis, localized neurodermatitis, acne cysts, granuloma annulare, and nummular eczema. Recent keloids also responded well.

The advantages of this form of treatment include prompt relief of pruritus, relatively rapid clearing of corticosteroid-responsive dermatoses, prolonged therapeutic effect, elimination of the need to administer corticosteroids systemically, the absence of significant systemic corticosteroid effects, and the low incidence of local undesirable reactions.

Assuming proper diagnosis of various localized dermatoses, the intralesional injection of triamcinolone should prove to be a most valuable tool in dermatologic therapy. It is not practical to treat widespread dermatoses by this method.

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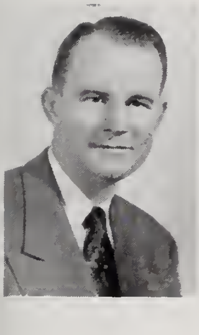
PRESIDENT'S PAGE

WHO SPEAKS FOR MEDICINE?



OUR SOCIETY functions as a State Medical Society and as such is unique in two respects. First, it has no component societies and, second, it is geographically located at the site of our National Government. It is in the latter respect that its members see and hear much of the inner maneuvering in national politics that escapes the attention of many of their colleagues in other parts of the country. From their front row seat in this great political arena they are privileged to observe the strategy used by master politicians.

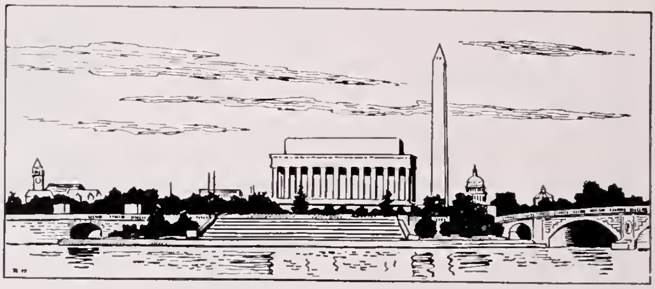
A classic example occurred in our city on March 28, 1962 when a news story appeared on the front page of a Washington paper under the headline, "Doctors Pledge at White House to Support Medical Care Plan." Twenty-seven outstanding doctors, it was reported, came to the White House to pledge their support of the Social Security approach to medical care for the aged. It was further stated that the group was thanked by President Kennedy in the White House Rose Garden, after which they were entertained by the Secretary of Health, Education, and Welfare at a luncheon in a local hotel.

It is interesting to note that of the seven identified by name not one was engaged in the private practice of medicine, and it is logical to assume that the same applies to the other twenty. They are employees of a "third party," to whom the term doctor-patient relationship is largely academic. How could they possibly represent medicine in a matter so vital to the future health of all our citizens, and not only just those past 65 years of age?

As of 1959 there were 239,000 physicians in this country, of which 39,000 (excluding residents and interns) were "not in private practice." Of the remaining 200,000 physicians engaged in active practice 75 per cent were active-dues-paying members of the American Medical Association. It is this group of physicians that care for the day-to-day medical needs of our citizens. There can be no doubt that the AMA speaks for and has the overwhelming support of the majority who oppose any compulsory, tax-supported system of medical care.

The proponents of the King-Anderson type bill seem to be showing signs of desperation. They realize that the enormous and rapidly growing voluntary prepaid health programs together with the Kerr-Mills program are rapidly fulfilling the needs for covering the cost

(Continued on page 307)



EDITORIALS

Re Ted Wiprud

TED WIPRUD, EXECUTIVE DIRECTOR

All of the Presidents of the Society since Ted came to us have leaned heavily upon him for guidance. Although theirs has been the responsibility, Ted's store of knowledge has been indispensable to them. Avoiding Society politics meticulously, Ted gained the respect of all of the members for that reason and many others. They recognized him as an efficient, tireless, and dedicated servant. Not only working by day, he returned to attend committee meetings night after night and yet seemed always fresh the next morning. Ted has been equally esteemed outside the Society, among public officials, executives and newsmen. He has considered it an important part of his job to make friends throughout the area. Also, he has been constantly active in the affairs of the American Medical Association, the Medical Society Executives Association, and the State Medical Journal Advertising Bureau. For 12 years he served as Secretary of Medical Service of the District of Columbia. Under his administration the affairs of the Society have been handled most efficiently by the office force at 1718 M Street. Soon after coming to the Society he organized the MEDICAL BUREAU, which has been of great importance both to the doctors and the public. Ted is truly and indisputably the dean of America's Medical Society Executive Secretaries.

TED WIPRUD, MANAGING EDITOR

Ever since Ted came to us in 1938 as Secretary of the Society, he has been Managing Editor of the ANNALS. As such he has worked in complete harmony with the Editor, who has the responsibility of the contents of the ANNALS subject to the control of the Executive Board of the Society. The Editor would like to affirm that in all these years there has never been any serious friction with the Managing Editor. Ted has always come to the Editor with any problem concerned with the ANNALS, and the Editor has asked Ted for his advice on many occasions. The ANNALS has progressed under this dual control to be one of the most outstanding of state medical journals. Beyond his duty as Managing Editor, Ted has written the widely acclaimed column, "In and Out of Focus by the Observer," a column devoted to medical socio-economic problems of the day.

TED WIPRUD, FRIEND OF THE DOCTOR

Every member of the Society knows that Ted is his friend. Often when members have problems they consult him and usually get helpful advice. He always lends a sympathetic ear and devotes all the time necessary to help solve the problem. During World War II many of the members in the Armed Forces corresponded with Ted, thus keeping informed of events at home base.

Young physicians coming to Washington to practice call upon Ted for advice as to how to set up shop. They immediately feel the warmth of his interest and remain his devoted friend. The affection in which Ted is held has been amply attested by the many letters from members of the Society upon the occasion of the announcement of his coming retirement as Executive Director. All hope that this is a severance in name only and that they will continue to see much of Ted even after his official retirement.

TED WIPRUD, FRIEND OF THE PUBLIC

Ted has always had the interest of the public at heart. He has not only been the servant of the medical profession but of suffering mankind. He has always believed that any action of the Society should be made only with the public interest in mind. His philosophy has been that there should never be any conflict of interest between the medical profession and the public. He believes implicitly that the oath of Hippocrates should be followed to the letter, that the physician is a public servant and as such should subjugate his own personal interests. Ted has always been concerned about the public image of the doctor and the profession. He knows that at times there seem to be two images, that the physician as an individual may be held in high esteem while organized medicine may be considered heartless, the latter no doubt as the result of opposition to certain political proposals that is not understood by the public. He fervently hopes that the public will eventually come to realize that organized medicine speaks up only because it wants to protect the public against proposals that might prove detrimental in the long run. The esteem in which Ted is held publicly has been demonstrated by the editorials about him in the newspapers concerning his retirement. This esteem will be shown further on the occasion of a testimonial dinner to be given in his honor.

Ambassadors of Good Health

The American image in the underdeveloped and uncommitted areas of the world plays a dominant role in the Cold War drama and will have a profound influence on its climax. Our shrinking globe can no longer sustain the isolationist, nor will it peaceably leave the hindmost to the devil.

In the Cold War, programs of material aid are stop-gap measures. They may be necessary, but they also emphasize inequalities. These peoples must be given the opportunity to develop themselves with dignity—a quality which we too would do well to keep in mind. Few facets of human endeavor are more fundamental than medicine, and none show a greater disparity in distribution. The unique blending of technical, intellectual and emotional concepts in medicine facilitates the transmission of ideas with that dignity necessary for genuine appreciation and growth.

It is no wonder that neither the cold, calculated donation of superior equipment to these lands nor the transplantation to America of a chosen few doctors for training under conditions that will be alien to them on their return home have been effective. Nor has the spotty demonstration of our talents on selected patients overseas had the desired effect. The American physician must transplant himself and help these peoples to develop the most from their own medical talents with what they have. Give them a solid base of fundamental education, and modern medical practice will flourish.

The well-directed motivation of the American doctor as an individual has been proven by the success of the "Orthopaedic Overseas" program.

This brainchild of a small group of orthopedists, given logistic support and an identity by MEDICO, has gathered astounding momentum. Jordan has been covered continuously on a monthly rotation basis since August of 1959. The program in Saigon, only four months old, has already made an impact on the Vietnamese. These intelligent and sensitive people can appreciate the gesture of a group of self-financed Americans giving everything but selling nothing. With the projects in Columbia and Nigeria now getting under way, coverage will begin to be truly global in scope.

The enthusiastic response of dedicated orthopedists throughout the country, both quantitatively and qualitatively, has probably been the most heartening feature of the program. Apparently, if the request comes from a responsible organization, the American physician will gladly go at his own expense, and he will work hard when he gets there. Professional and administrative responsibilities have been tackled with initiative by mature men who have already proven their worth at home.

In spite of the obvious international orientation of this program, it has been gratifying to note its impact on our own lay public. Enthusiasm has been unparalleled during a period when the public relations of the medical profession otherwise have plunged to an all-time low. People are worried about the Cold War and concerned about the future of their country. Now they can picture vividly a real opportunity which only we as medical men can handle. For once let us display in public affairs the initiative that we have demonstrated so long in medical arts.

The time has now come for our local, as well as national, medical associations to furnish some additional impetus to this movement. Medical isolationism is an anachronism. Individual physicians have already recognized this; our profession as a group has not.

HENRY L. FEFFER, M.D.

Cancer and Proctosigmoidoscopy

National recognition of April as Cancer Control Month should again alert all physicians that their role in Cancer Detection should be an active one.

An informed, educated public is continuing to learn and heed "Cancer's Seven Warning Signals." Symptomatic patients are now recognizing that they have had a more adequate and thorough physical examination if a digital anorectal examination is supplemented by proctosigmoidoscopy. Asymptomatic, presumably healthy adults are being urged to invest the time, expense, and effort in an endeavor to detect early precancerous and cancerous lesions during the periodic annual health checkup. Under these circumstances the precept that "early diagnosis equals good prognosis" becomes a meaningful expression to both the patient and the physician.

The American Cancer Society is actively publicizing "Life Story," a $14\frac{1}{2}$-minute documentary color film which effectively demonstrates that proctosigmoidoscopy can be a rewarding experience for all concerned.

The Physicians Subcommittee of the Professional Education Committee of the American Cancer Society is sponsoring a course in the technique of proctosigmoidoscopy. This teaching program is being offered to all practicing physicians in the Washington Metropolitan Area. It will be carried out in conjunction with the teaching clinics in various hospitals. It is being offered because the early detection of symptomatic and asymptomatic cancer of the anus, rectum, and colon is the responsibility of all practicing physicians. The vital role of the individual physician whose office can, and should, become a Cancer Detection Center will be enhanced if proctosigmoidoscopy becomes a part of his adequate examination.

The incidence of new cancer and the estimated cancer deaths in 1961 indicate that 70,000 patients will develop colonic or rectal cancer, and 39,000 patients will die of cancer of these structures. This exceeds the cancer incidence and mortality respectively of the breast, lung, uterus, prostate, and stomach. Valid statistics are available indicating that approximately one-third of all patients operated upon for cancer have had a prior "minor" anorectal operation and a complete gastrointestinal roentgenologic survey within the year preceding their cancer operation. Proctosigmoidoscopy, the most rewarding diagnostic procedure, had not been done.

The alert, competent and thorough physician can and should make proctosigmoidoscopy an acceptable procedure in order that an increasing number of these 70,000 patients will be given the opportunity for early detection. This is our opportunity to decrease the death rate of 39,000. Here is an opportunity to appreciably increase the cure rate of cancer while it is still a localized disease.

The techniques of examination are easily learned. The equipment is available, simple to use and maintain. The most important investment is professional time and the most important conviction is that the examination is feasible, worthwhile, and acceptable to the patient, who may be hiding his fear of cancer behind the facade of false modesty. The influence of social refinement, when a disorder pertaining to the "unmentionables" develops, is rapidly disappearing among the medically educated public, and physicians must be alert to grasp the earliest opportunity to discover disease in this location.

The suggested routine for adequate examination of the anus, colon, and rectum consists of:

1. Thorough abdominal examination.
2. Inspection of the perianal area, perineum, inguinal and dorsal sacrococcygeal areas.
3. Digital anorectal examination to include bidigital rectovaginal abdominopelvic examination in female patients.
4. Anoscopic examination.
5. Proctosigmoidoscopy in the lateral decubitus, knee chest, or inverted head down position.
6. Barium enema with air contrast, followed by upper G.I. study and small bowel study when indicated.

This portion of the Cancer Detection Examination is an important part of the general physical examination directed to cancer detection in other sites. The sequence of the examination is significant if physicians wish to avoid having barium pack above a malignancy and convert incomplete obstruction into complete obstruction. The roentgenologist does not want this to happen and, in addition, he does not want to report the condition of the rectum when it is accessible to digital and endoscopic examination.

The results of the cancer detection examination through the six routine steps as outlined will vary with the nature of the population examined. The examining physician can expect to detect one cancer and approximately ten precancerous conditions in every 100 patients examined. In addition, some 20 to 25 per cent of the examinees will be found to have some condition not related to malignancy, but of great significance in the total spectrum of adult preventive medicine.

There is nothing more tragic in the practice of medicine than the discovery that a supposedly benign condition which has been under observation and care is, in fact, malignant. The education of a physician must continue throughout his lifetime if he is to avoid diagnostic errors of omission. Proctosigmoidoscopy should be a rewarding experience for any physician who will examine his patients regularly by the means available to him.

GARNET W. AULT, M.D.

Foreign Medical School Graduates

On September 14, 1961, the day President Kennedy signed Public Law 87-248, the District of Columbia joined 33 states in requiring the Standard Certificate issued by The Educational Council for Foreign Medical Graduates (ECFMG) for admission to the medical examination.

The ECFMG is sponsored by the American Medical Association, the American Hospital Association, the Association of American Medical Colleges, and the Federation of State Medical Boards of the United States.* The Council commenced operations on October 1, 1957, and up to December 31, 1960, 17,828 foreign medical graduates had taken the American Medical Qualification Examination. The examination is presently being given in 47 United States and Canadian centers and 68 centers abroad.

The certificate issued by the ECFMG is in no sense a license to practice. It is tangible evidence that the applicant for license by examination has had a minimum of 18 years of formal education, including at least four years in a bona fide medical school, and has passed a comprehensive examination covering a wide range of medical subjects.

The American Medical Association and the Association of American Medical Colleges originally published a List of Foreign Medical Schools on February 7, 1950, revised July 14, 1950, February 10, 1951 and December 3, 1951. It was the opinion of these two organizations that "medical institutions and medical organizations in the United States would be justified in considering current and past graduates of the . . . foreign medical schools [on the list] on the same basis that they consider graduates of approved medical schools in the United States." This list, which was officially adopted by the Commission on Licensure, was discontinued by the AMA and the Association of American Medical Colleges on January 1, 1960. The discontinuance of this list went hand-in-hand with the formation of the Educational Council.

Applicants seeking admission to the District of Columbia medical examination who hold the standard ECFMG Certificate are also required to have at least 12 months' training in an approved American hospital.

The ECFMG plan is preferable to the List of Foreign Medical Schools in that it puts the test on the individual rather than approval and acceptance of his (or her) medical school. It is well known that it is difficult, if not impossible, to evaluate medical schools behind the Bamboo and Iron Curtains.

In addition to the 34 jurisdictions now requiring the ECFMG Certificate, nine jurisdictions do not require the certificate but are giving considerable weight to it.

It should be noted that the ECFMG Officers, Board of Trustees, Executive and Examination Committees, and staff are a dedicated group. The functions of this important Examining Council are in competent hands.

Paul Foley
Deputy Director, Department of Occupations and Professions, Government of the District of Columbia

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* ECFMG Annual Report 1960.

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

IN & OUT OF FOCUS

By the Observer

Best Wishes, George!

On July 1 our Medical Society will have a new Executive Director and Secretary in Mr. George W. Cooley. He comes to Washington with an excellent background for his new duties. As members of the Society have been informed, he has been associated with the AMA's Council on Medical Service since 1945 and is at present its Secretary. Prior to his association with the AMA, he was the Executive Secretary of the Toledo Academy of Medicine. He is therefore widely and favorably known to hundreds of physicians throughout the country. The Society is fortunate in obtaining a man of Mr. Cooley's stature.

Your Observer has known George for all of 25 years. He has found him not only an agreeable person, but extremely well informed about the social and economic problems of medicine. This is not surprising, considering the numerous studies he has made over the years. It has given him a deep understanding of the critical problems which face the medical profession today.

His immediate problem upon his arrival in Washington is to get acquainted. Your Observer will have only a month to orient him in his new duties. Members can do much to make Mr. Cooley feel at home, and it is your Observer's earnest hope that they will do so.

Your Observer wishes George many years of accomplishment and contentment in his new assignment. He stands ready, whenever his help is needed, to come to his assistance.

My best wishes, George, for a long and happy relationship with the Medical Society of the District of Columbia.

★

"... No Greater Force ..."

The critical period for voluntary health insurance is at hand. As every physician knows, Social Security legislation which would provide medical care for persons over 65 is now before the Congress. In the opinion of most medical leaders its enactment would revolutionize certain aspects of medical practice, and, in effect, lead to the socialization of medicine. On the other hand, ardent advocates for its passage, including organized labor and senior citizens' groups, are insistent that voluntary methods cannot cope with the situation. Proponents of voluntary health insurance will not agree with this premise although opinions among them vary as to the need for subsidy.

It is 30 years since your Observer became convinced that prepaid medical care would do much to alleviate the burden of medical costs. There were, of course, others in the medical profession at that time who were of the same belief, but they were very much in the minority. Although small in number, they were a courageous and tireless group through whose persistence medical society prepayment medical care plans came into existence in the late 1930's. Commercial insurance companies did not venture into the field until the experimentation period was about over.

In an address before the Annual Conference of Blue Shield Plans in Chicago late last October Dr. Aims C. McGuinness pointed to the significance of these developments.

> "Although the birth of the Social Security Act will go down as one of the very important public actions at Federal level in the history of our Nation," Dr. McGuinness said, "perhaps of equal or even greater significance in the health field was the development in the late 1930's of voluntary programs for the prepayment of medical care—also by-products of the great depression. Although the initial impetus for Blue Cross, Blue Shield and the other early prepayment plans came from the need to save the hospitals of the country from bankruptcy, and to protect the incomes of physicians, their quarter century impact has far transcended their original purposes. Millions of people have been provided opportunity for hospital and medical care who otherwise might not have gotten it, and millions were introduced to a commodity which was to become of increasing importance to everyone as scientific advances enhanced its value. There has been no greater force in increasing the public's aspirations for good health care than the voluntary health insurance movement."

In the beginning there were a sizable group who were vocal in their criticism of voluntary health insurance. They insisted that its espousal by organized medicine could only lead to a compulsory system. Differences of opinion on this score subsided during World War II, because, as Dr. McGuinness puts it, "With the . . . 1918 influenza epidemic still fresh in their memories, our national leaders, both in and out of Government, very quickly realized that the ability—or lack thereof—to prevent or control epidemic diseases in both our civilian and military populations could spell the difference between victory and disaster."

Later in his talk Dr. McGuinness observed:

> "Socioeconomic and cultural changes since the end of World War II, while profound—particularly when looked at in the overall national picture, have come upon many of us in a somewhat more subtle manner, and more likely to be recognized in retrospect rather than as ongoing forces. A substantial proportion of our Nation's physicians, engaged in the most absorbing occupation known to man, quite understandably have viewed these changes from the rather parochial vantage point of their own communities and practices—and in our large cities, from their own spheres of activity within these cities. Unfortunately, many of the views expressed by the leadership in medicine in this country—the leadership to which most of our practitioners look for guidance—also would suggest derivation from a somewhat parochial, as opposed to what might be called an Olympian vantage point."

Dr. McGuinness admits, however, that he has viewed developments from a "somewhat lesser mountain than Olympus."

He, like many others, is concerned over the inadequate number of physicians to care for a population "now 182 million strong, and 30 million more people than there were in the United States but a decade ago." Who is going to provide the medical care for our rapidly expanding population, he asked? Where and how is it going to be provided, and how is it going to be paid for? "Each of these questions," he stated, "could be the subject of an entire symposium."

> "Organizations such as Blue Shield must get squarely behind the national efforts to reinforce our present medical schools, programs to assist in the development of new ones, and programs to recruit and assist their students. It could give an enormous boost to the barren years of many residency training programs if Blue Shield fees for services rendered by qualified and duly licensed senior residents could be used to lift the paltry stipends residents now receive for the support of themselves, their wives and their children.
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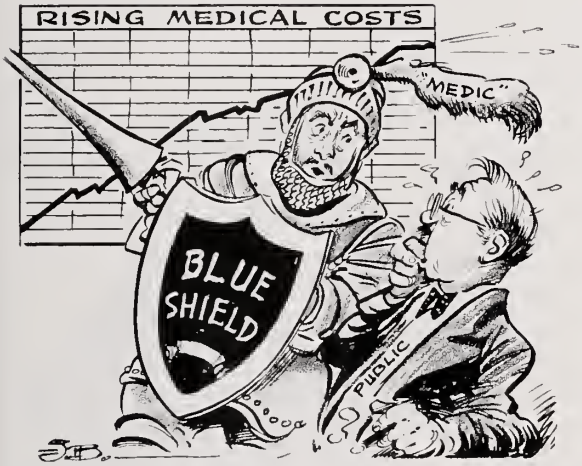
> "An inescapable trend is the rising cost of medical care, a product of new technology and of increased costs of facilities and personnel at all levels. Medical care is the one item in the Department of Labor's Cost-of-Living Index which has gone up every single month since

the medical care portion of the Index first was published in 1947, and it is destined to continue to rise. In a paper read in New York on October 4 Dr. Albert W. Snoke, Director of the Grace-New Haven Hospital, predicted that hospital costs would increase at a rate of five per cent per year indefinitely. Granted that the medical care product is infinitely more valuable than it used to be, and granted that its high cost is to a large degree unavoidable, there is no question but that high costs are creating for many an increasingly difficult barrier. If one believes that medical care in fact is a right of all of our citizens in this country, how is it going to be brought to those unable either to purchase it out of pocket, or to pay the steadily mounting costs of insurance premiums? And when one speaks of payment for insurance premiums, the question must be asked as to what amount in proportion to total wages is industry going to be willing to put into the health insurance portion of fringe benefits. . . .



"This is a Crusade for YOU . . . and . . . er . . . ME!"

"Financing of medical care promises to be increasingly difficult, and will not be eradicated by being swept under the rug with clichés. Despite the fact that in the aggregate medical care costs will rise as the years go by, through intelligent and selective use by physicians of the diagnostic and therapeutic armamentarium, by imaginative design and use of medical care facilities, and by constant reappraisal and reorganization of the manner in which medical care is provided, we have an opportunity to accomplish much toward the goal of holding costs within bounds. This is where the medical profession, and the medical profession alone can do a job."

Your Observer has devoted more space than usual in his final column to prepaid medical care because he is deeply concerned not only for the welfare of the medical profession whom he has served so long but for their patients. If the profession is to remain free, it must make voluntary health insurance work. Your Observer would be less than honest if he did not at times admit to misgivings that this will not happen. There are still too many physicians who are not completely "sold" on voluntary health insurance.

Although your Observer is a solid Blue Shield man, he recognizes that other prepayment programs have an important place. These include those sponsored by commercial insurance companies, which at present write most health insurance coverage, private clinics, and consumer and industrial groups.

Your Observer's final plea to doctors of Washington is, do not fail your Blue Shield Plan! Help it work to the satisfaction of the public and yourself. If you do, you will have the gratitude of the people of this community and you will do your share toward keeping your profession free.

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Secretary Conklin

In his closing weeks with the Medical Society, it is natural that your Observer should reflect on some of the experiences he has had in the past 24 years, the people he has known, some of whom, once very important, have departed from the medical scene. Among them he recalls the many Presidents with whom he has served and others who have dedicated themselves to advancing the interests of the Medical Society.

In the course of his reflections his thoughts turned to his predecessor, Dr. Coursen B. Conklin. As older members of the Society will remember, Dr. Conklin was a part-time Secretary and Treasurer until 1938. He was responsible for the establishment of the MEDICAL ANNALS and was its Managing Editor until your Observer took over.

Dr. Conklin was devoted to his family and justly proud of his talented children. Next in line of his affections was the Medical Society. No one could have served an organization more diligently than Dr. Conklin. Unfortunately, he became a victim of a controversy which culminated in legal action against the AMA and the District Medical Society by the Federal Government. It was at this point that your Observer made his appearance. He did not know upon his arrival how unhappy Dr. Conklin and his devoted supporters were about his being replaced, nor did he realize the full extent of Dr. Conklin's inner turmoil over his situation.

Many years have passed since that time, but this has not dimmed your Observer's warm feeling for Dr. Conklin. No medical society will have a more loyal official. He was not a trained administrator nor did he pretend to be. Ordinarily this would have been of no consequence, because no one dreamt at that time that the Government would concern itself with the Society's affairs and that its records would come under the scrutiny of unsympathetic public officials. But that is just what happened, with rather tragic results for Society officials.

These developments in no way reflect upon Dr. Conklin as a conscientious physician and an honorable man. Above all, he was a gentle person in whom there resided the best intentions and good will. He will and should have an honored place in the history of our Society.

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War on Cigarettes

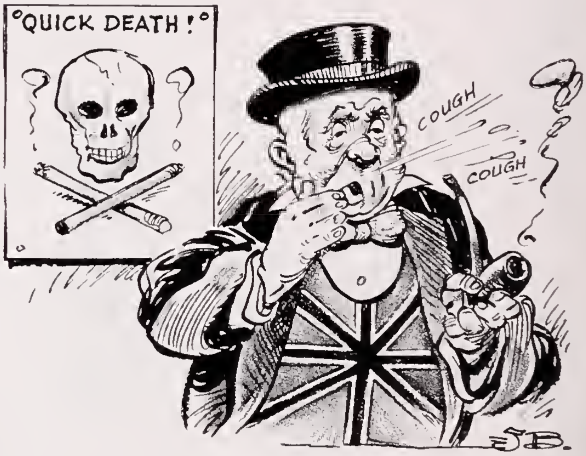
"Cigarettes are now so important in our society and in our economy that even the discovery that they are killing people in tens of thousands has not weakened their position. It remains to be seen what mortality will be tolerated before there is public anxiety, but this partly depends on what is and what is not done by the three bodies most concerned—the Government, the tobacco manufacturers, and the medical profession."

A correspondent for *The* (London) *Lancet* in a recent issue of that publication sums up the ineffectiveness of these bodies as follows:

"The (British) Government... has taken no active steps to protect the consumers of cigarettes.... It has not even stopped the supply of duty-free cigarettes to members of the Forces."

Tobacco manufacturers are financing extensive research into the effects of cigarette smoke. At the same time, they have stepped up their sales campaign.

The medical profession has protested to "authoritative bodies" but has not yet "conveyed to the public a corporate opinion."



"Switch to a pipe.... It's slower!"

"The appalling and increasing loss of life," the correspondent concludes, "is unlikely to be checked if the medical profession and the tobacco industry simply oppose each other, and while the Government sits back and rakes in the proceeds...."

As to the solution, the ideal one, according to the writer, would be the development of a cigarette which would reduce the danger of lung cancer. To date, tobacco manufacturers have not made much progress in this direction. Efforts to curb the disease "either clinically or by health education" have also met with little success. A "practical way" in which the situation can be improved is "to persuade the public to smoke pipes and cigars rather than cigarettes. The health of the nation would be improved far more than by unsuccessful attempts at more idealistic and unrealistic solutions."

Tobacco advertising campaigns might well be devoted to a switch to cigars and pipe tobacco. The result would, according to the correspondent, be "a gradual decline in the smoking of cigarettes." He pleads with his countrymen to take such a step because, he says, "Britain leads the world in her mortality from smoking cigarettes."

An editorial in the same issue of *The Lancet* explains why it is impossible to restrict cigarette smoking by Government fiat. To begin with, there is no evidence that smoking hurts anyone but the smoker, except the possible loss of working time if incapacitated through use of the "weed." Neither is there any indication that excessive smoking contributes to criminal acts or moral wrong-doing which would adversely affect the community. Prohibition of tobacco advertising in Sweden, it is stated, has had little effect on smoking.

The Lancet suggests two means of reducing the number of people who "smoke themselves to death." The first is in changing the fashion of smoking cigarettes. Here, it is said, the best hope lies. In other words, make it fashionable to smoke pipes and cigars. Secondly, increase the tax on cigarettes, and conversely, reduce them on pipe and cigar tobacco.

The Lancet is firmly convinced that the increasing number of deaths from lung cancer is due to cigarette smoking, and it looks hopefully, if not optimistically, to a reversal of the present smoking habits of the British people.

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Finis

With this issue of MEDICAL ANNALS "In and Out of Focus" makes its exit. The column has appeared in its present form for nearly 24 years.

Although your Observer has had more important assignments, none has given him more pleasure than being Managing Editor of the Society's publication, even though at times preparation of this column has been downright drudgery. As every writer knows, this is not a unique experience. It is the most frequent complaint of those who take their writing seriously.

Your Observer recalls with much satisfaction that his contributions to the MEDICAL ANNALS have never been censored. On at least one occasion it would have been better if his comments had been blue-penciled. However, because there were never any objections your Observer felt free to say what was on his mind even though it was not in accord with the "party line." Undoubtedly, this attracted a number of readers. If this premise is accepted, it is to the credit of Dr. Wallace M. Yater, Editor of the MEDICAL ANNALS, that he allowed your Observer a free hand.

Finally, your Observer wishes to express his gratitude to the Executive Board for giving him the opportunity to assist in the development of the ANNALS. It has been a most satisfying experience.

THEODORE WIPRUD

Membership

The following applicants for membership were duly elected to membership by the Executive Board, March 26, 1962, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

Helmut P. Arenz, 3711 Fessenden Street, N.W.
Robert G. Busboom, 1025 Vermont Avenue, N.W.
Joseph F. Chambers, D. C. General Hospital
Francis D. Chucker, 1835 Eye Street, N.W.
William S. Detwiler, 1025 Connecticut Avenue, N.W.
Rashid A. Massumi, D. C. General Hospital
D. Donald Pelliciari, 2400 41st Street, N.W.
O'Donnald H. Sheppard, 820 Quincy Street, N.W.

Associate Member

Ed Baik Chung, Georgetown University Medical Center

TUMORS OF THE KIDNEY ARE CONSIDERED **MALIGNANT** UNTIL PROVEN OTHERWISE

Carcinoma of the Renal Parenchyma

FOUR MAIN TYPES

1. Adenocarcinoma (Hypernephroma) 80–85%
2. Epithelial Tumors of the Renal Pelvis 6–8%
3. Nephroblastoma (Wilms' Tumor) 4–6%
4. Sarcoma 2–4%

The first step in cure is early diagnosis. The symptoms vary BUT the most frequent are:

1. Hematuria with or without pain
2. Pain (kidney region)
3. Mass in flank or abdomen

Other less common symptoms are:

1. Unexplained fever and anemia
2. Symptoms secondary to metastases (most frequently involved sites are lungs, lymph nodes, liver and bone).

Diagnosis

1. IVP and retrograde pyelogram
2. Cytology
3. Aortography with or without laminogram
4. Renal scan, using radioactive mercury
5. Surgical explorations—final step in diagnosis and first step in treatment.

Treatment

1. Complete removal of kidney, tumor and sometimes ureter
2. Supplemental treatment (indications vary)
   a. X-ray
   b. Chemotherapy

RESEARCH
EDUCATION
SERVICE

American Cancer Society

District of Columbia Division, Inc.
810 - 18th Street, N.W.
Washington 6, D.C.
EXecutive 3-3690

Juvenile Amputee Program*

CHARLES H. EPPS, JR., M.D.
FRANCES E. BRENNECKE, M.D.

Handicapped and Crippled Children's Unit, District of Columbia General Hospital, Washington

During the past ten years great advances have been made in the area of prosthetics for children. The stimulus has come largely from the Subcommittee on Children's Prosthetic Problems of the National Academy of Sciences and participating research centers in various states. In 1958 a clinic was organized in the Handicapped and Crippled Children's Unit located at the District of Columbia General Hospital. The Unit is a division of the Department of Public Health's Bureau of Maternal and Child Health. The purpose of the Clinic is to provide unified and continuing care for juveniles with prosthetic problems.

TABLE 1
Active Clinic Cases during 1960 by Age, Sex, and Etiology of Amputation or Anomalous Extremity

Age	Congenital			Acquired		
	Male	Female	Total	Male	Female	Total
0–2	4	3	7	0	0	0
2–4	6	0	6	0	0	0
4–6	4	3	7	1	0	1
6–8	1	2	3	0	0	0
8–10	2	1	3	0	0	0
10–12	2	0	2	0	0	0
12–14	0	1	1	0	0	0
14–16	0	0	0	2	0	2
16–18	1	0	1	0	0	0
Over 18	0	1	1	0	4	4
TOTAL	20	11	31	3	4	7

Patients are referred by private physicians, public health clinics, and local hospitals. The Juvenile Prosthetic Clinic operates as a specialized clinic within the total program of the Handicapped and Crippled Children's Unit, and therefore all essential medical specialties and complete psychosocial services are available to the amputees.

CLINIC ORGANIZATION

The Clinic is organized as a team effort similar to other amputee clinics[1] and presently consists of an orthopedic surgeon, a physical and an occupational therapist, and a certified prosthetist. A medical social worker is assigned to each patient, and a psychologist is available for psychometric testing. Photographs are utilized to record growth of the patients and changes in prosthetic equipment.

The patient follows a definite itinerary which is divided into closely integrated phases.

1. First, the patient referred to the Unit is seen in a screening clinic, where the initial history is taken and a complete pediatric examination is done. This is significant because a number of patients with musculoskeletal anomalies will have other defects. At this visit necessary X-ray and laboratory examinations are ordered and appointments made for special evaluations as indicated. This may include motor development and speech and hearing or psychological testing.

2. At the initial Amputee Clinic visit an intake evaluation is done. Special forms are employed to record the necessary historical data and the present condition of the amputation stump or anomalous extremity.

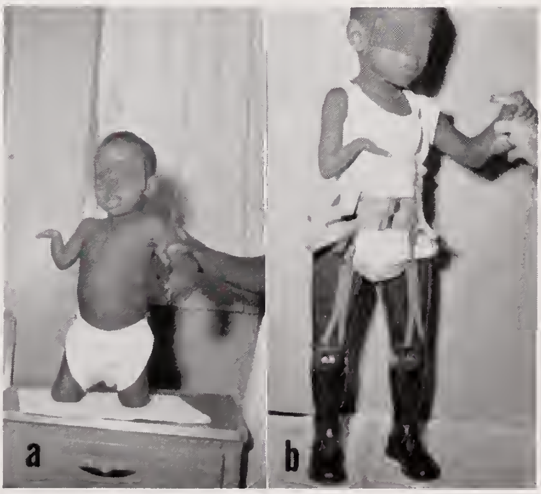

FIG. 1. Case 1. (a) Right paraxial hemimelia (ulna) and knee disarticulations; (b) bilateral AK quadrilateral prostheses with knee joints.

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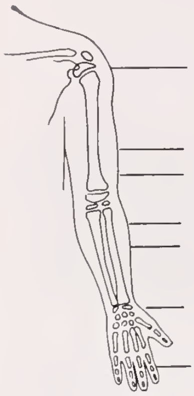
* Read before the Washington Orthopedic Club in Washington, D.C., November 6, 1961.

TABLE 2

*Upper Extremity Amputee Type Based on Functional Level**



	RIGHT	LEFT	TOTAL
SHOULDER DISARTICULATION	5	5	10
SHORT ABOVE ELBOW	1		1
STANDARD ABOVE ELBOW	1		1
VERY SHORT BELOW ELBOW		1	1
SHORT BELOW ELBOW	1	1	2
WRIST DISARTICULATION	3	4	7
DIGITAL	1	1	2
ANOMALOUS EXTREMITIES	8	6	14
			38

* Patients included in the anomalous extremity category are those with central hemimelia, partial aphalangia, etc., who did not require prosthetic fitting.

3. Prefitting physical and occupational therapy is given, if necessary. This may include stretching of contractures or strengthening of weakened muscle groups by resistive exercises as ordered by the examining physician. Occasionally, malformed limbs must be converted to more standard amputee types before fitting is accomplished.

4. The fourth stage is the writing of the prosthetic prescription by the clinic team after careful evaluation of the patient and all collected data.

5. Next comes actual fabrication of the limb by the prosthetist.

6. The prosthetic team does a thorough checkout of the prosthesis. Standard forms are utilized to record data.

7. The training now begins. This is one of the most important and difficult phases of the program. Post-fitting training is routinely given on an inpatient basis but is given on an outpatient basis if practicable. The training of all upper extremity amputees is done by the occupational therapist, and the lower extremity amputees are trained by the physical therapist. Therapy may be given as often as two periods daily. This is essential for the very young lower extremity amputee who has never walked and for patients with multiple extremity involvement. Under four years of age special techniques are necessary for the upper extremity patients and usually require four to six weeks of inpatient training.

8. The program is continued on an outpatient basis after discharge, and patients are checked at least every three or four months. Children of school age with special problems who attend Melvin Sharpe Health School receive continued training, if necessary, during the school year. This training is closely supervised by clinic personnel and is resumed at the Unit during summer vacations.

ANALYSIS OF PATIENTS

Analysis of clinic records indicates that 38 patients were active during 1960. Thirty-one patients (81.58 per cent) were congenital amputees, while seven patients (18.42 per cent) had traumatic etiology. This compares favorably with the 83 per cent congenital amputees reported by the University of California.[2] With regard to sex, 23 patients (60.53 per cent) were males and 15 patients (39.47 per cent) females. The heaviest patient load was comprised of youngsters under six years of age (table 1). This group requires early and careful fitting, intensive training,

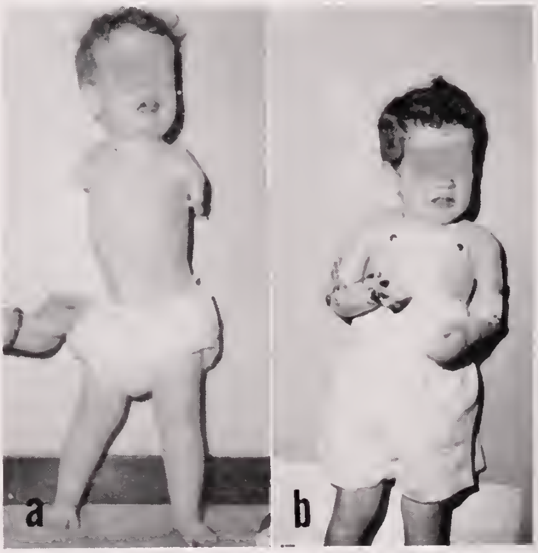
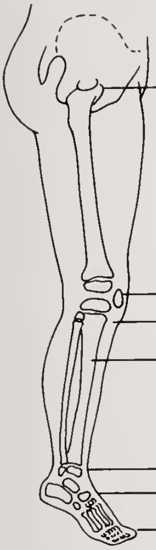


FIG. 2. Case 2. (a) Right amelia and left transverse hemimelia; (b) bilateral shoulder disarticulation type prostheses.

TABLE 3

*Lower Extremity Amputee Type Based on Functional Level**



	RIGHT	LEFT	TOTAL
HIP DISARTICULATION	1	1	2
KNEE DISARTICULATION	3	2	5
SHORT BELOW KNEE	1		
STANDARD BELOW KNEE	4	2	6
ANKLE DISARTICULATION	1		1
TRANSTARSAL	3	1	4
DIGITAL	1	1	2
ANOMALOUS EXTREMITY	3	4	7
			27

* Patients listed under anomalous extremity did not require prostheses.

and adequate follow-up if long-range rehabilitation objectives are to be realized.

More than 40 per cent of our patients had more than one anomalous extremity. There were 22 patients with one, six patients with two, four patients with three, and six patients with four anomalous extremities. A number had other associated defects, such as scoliosis, micrognathia, club feet, tibial torsion, and mental retardation.

Analysis of the amputee type based on the functional level included 38 in the upper extremity and 27 in the lower extremity. The most frequent level seen in the uppers were shoulder disarticulation and wrist disarticulation (table 2). Two patients less than two years of age with bilateral shoulder disarticulations presented unusual fitting problems. In the lower extremity group the knee disarticulation and the standard below knee level were seen in greatest frequency (table 3).

ILLUSTRATIVE CASES

Case 1. S. V., a 3-year-old boy, was initially diagnosed as right upper incomplete paraxial hemimelia (ulna) and bilateral paraxial hemimelia (tibia) in the lower extremities. The latter were converted to knee disarticulations and the boy fitted with prostheses (figure 1). He learned to walk at two years of age, using only a cane.

Case 2. T. W. was admitted at the age of 19 months with upper right amelia and left transverse hemimelia. He was fitted with bilateral shoulder disarticulation type prostheses (figure 2). Within a month he learned to activate his hook and has developed considerable dexterity. The prostheses seemed to improve balance, and he learned to walk independently at 23 months.

Case 3. B. B., a 10-year-old boy with upper left amelia and right transverse hemimelia, was fitted initially at the age of 6 years (figure 3). He has become independent in a number of activities—writing, eating, fastening and unfastening buttons, and limited toileting.

CLINIC PERSPECTIVE

The Clinic is proceeding along three planes service, research and teaching. Efforts are being made to establish a complete prosthetic workshop which will permit prosthetic repairs and the fabrication of new limbs to be accomplished more easily.

The Clinic has carried on independent research by

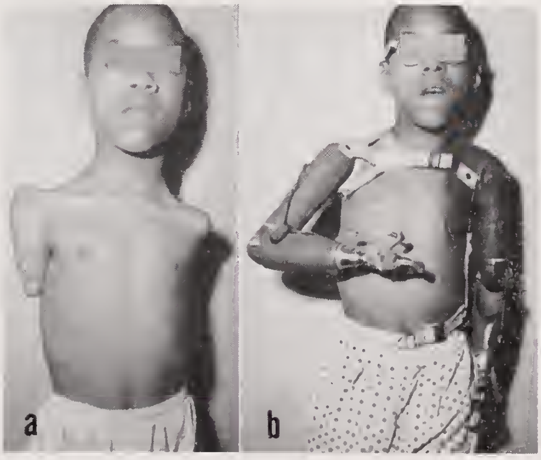


FIG. 3. Case 3. (a) Right transverse hemimelia and left amelia; (b) above-elbow-type prosthesis on the right and shoulder disarticulation type prosthesis on the left.

"DOCTOR OF THE YEAR"

DR. CHARLES STANLEY WHITE accepts the plaque citing him as "Doctor of the Year" from MRS. ROGER WILLIAMS, Chairman of Doctors' Day observance, at a reception in the D. C. Medical Society's Library.

fabricating nonstandard prostheses to meet unique problems. Newer prosthetic techniques are being utilized as they are introduced. For example, several below-knee amputees have been fitted with the patella tendon-bearing prosthesis. Thus, we hope to add to the clinical experience that will ultimately determine the place of this type of limb in children's prosthetics.

Finally, the Clinic with its wealth of material provides excellent teaching opportunities. The orthopedic residents in D. C. General Hospital have opportunity to learn the fundamentals of fitting juvenile amputees and to observe actual fabrication techniques. The pediatric residents are becoming acquainted with the advantages of early referral and the possibilities of current prosthetic management. This is extremely desirable, since the pediatrician is often the referring physician.

Thus, the juvenile Prosthetic Clinic of the Handicapped and Crippled Children's Unit serves its patients, the medical profession, and the community.

(*Continued on page 307*)

Dr. White—Doctor of the Year

Dr. Charles Stanley White has received many honors in his long and notable career but probably none he appreciated more than the one bestowed upon him by the D. C. Auxiliary to the Southern Medical Association on March 30.

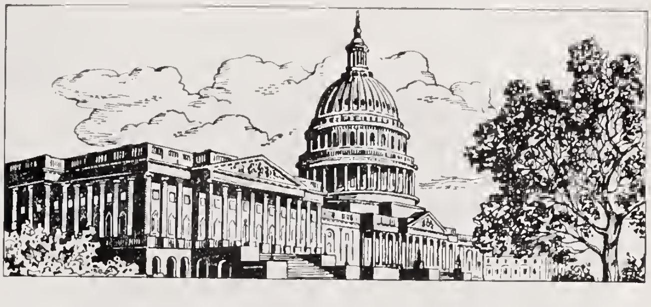
A "Doctor of the Year" plaque is given to an outstanding physician to commemorate Doctors' Day, which is March 30. Dr. White's 60 years of practice in surgery and his still active interest in all things pertaining to medicine made him the outstanding nominee for this honor.

Mrs. George William Ware, President of the Auxiliary to the Southern Medical Association, and Mrs. Frank O'Bryan, President-elect, received with Dr. and Mrs. White in the Library of the Medical Society Building, which was thronged on that balmy spring day by the many friends and colleagues of this distinguished surgeon who came to pay tribute to one who has not only given so much to medicine but who enriches as well the community in which he lives. Dr. Oscar B. Hunter, Jr., Councilor of the Southern Medical Association, was asked to present the plaque, which was inscribed "in grateful appreciation for many years of service to the medical profession." Tributes included a telegram to Dr. White from the Honorable Abraham Ribicoff, Secretary of Health, Education, and Welfare, in behalf of President Kennedy and his Department. Maxwell & Tennyson provided a bountiful buffet for the occasion.

Dr. and Mrs. Charles Stanley White, Jr., and their son, Charles Stanley White III, a student at Harvard, were among the guests. Dr. White still maintains office hours with his son and is in the operating theatre almost daily.

The D. C. Auxiliary to the Southern Medical Association is indeed proud to proclaim Dr. Charles Stanley White "Washington's own great man of medicine!"

MRS. ROGER S. WILLIAMS
Chairman, Doctors' Day Committee,
District of Columbia Auxiliary
to the Southern Medical Association



NEWS & PERSONALS

Meetings

The American Medical Association will convene for its **111th Annual Meeting** in Chicago, June 24–28. "Medicine in the Atomic Age" will be the theme of the scientific program.

All of the scientific and industrial exhibits, the general meetings, and the meetings of the 21 sections will be held under one roof for the first time. The site of the meeting will be Chicago's giant new auditorium and convention hall, McCormick Place, newly opened on the shore of Lake Michigan at 23rd Street, a short distance south of the Loop. McCormick Place is completely air-conditioned and is well supplied with restaurants and other facilities which registrants will find attractive and pleasant. The Medical Society of the District of Columbia will be represented by its official delegates, Drs. Raymond T. Holden and C. Willard Camalier, Jr. Undoubtedly, a large delegation from Washington will also be in attendance.

The American Medical Women's Association extends an invitation to all women physicians attending the AMA meeting in Chicago to be their guests at a brunch on Sunday, June 24, at 11:00 a.m. at the Essex Inn. There will be a program consisting of a panel, with audience participation, on the subject, "Medical Woman Power—Can It Be Used More Efficiently?" Women physicians who plan to attend should so advise the Association at 1790 Broadway, New York 19, N. Y.

The 12th Annual Group Health Institute of Group Health Association of America, Inc., will convene at the Shoreham Hotel, May 14–16. Meetings are open to physicians and interested persons. The registration fee is $15.00.

The speaker for the luncheon, May 14, will be Mr. O. Roy Chalk, President of D. C. Transit System. His topic will be "Corporate Management Looks at Group Practice Prepaid Plans." Conference speakers will include Dr. James Howard Means, of Harvard Medical School; Senator Hubert H. Humphrey, of Minnesota; Rep. Jeffery Cohelan, of California; and other persons prominent in the field of public health and in Federal and state health programs. The speaker at the banquet Monday night will be Rep. John A. Blatnik, of Minnesota.

Preliminary programs are available from Mr. Frank C. Watters, General Chairman of the Institute, 1025 Vermont Avenue, N.W., Washington 5, D.C.

A community-wide **Conference on Alcoholism** will be held, May 25, at the Mayflower Hotel. The theme of the meeting will be "Toward a Broader Approach to Alcoholism Control."

At the luncheon session, which opens the Conference, Mrs. Marty Mann, Executive Director of the National Council on Alcoholism, will give the keynote address on "Alcoholism—Community Problem."

The afternoon session will begin at 2:00 p.m., when Dr. Anthony Zappala will moderate a panel discussion—"Involving the Medical Profession, the Social Agencies, the Clergy, and the Employer in the Handling of the Alcoholism Problem." Panelists will be Dr. Clifton R. Gruver, Dr. R. Lomax Wells, Miss Margaret Hartson, of Family and Child

HEART AWARD TO DR. DAVIS

DR. EDGAR W. DAVIS (center) receives the American Heart Association Distinguished Achievement Award for 1962 from DR. BERNARD J. WALSH (left), Chairman of the Washington Heart Association's Award Committee. On hand to extend congratulations is DR. JOHN W. LATIMER, JR., President of the Washington Heart Association.

The citation which accompanied the award recognized Dr. Davis for "his pioneering in the surgical treatment of cardiovascular defects in this community, beginning with the first successful operation for a congenital cardiac fault in November 1942."

Services of D. C., and the Reverend Alfred B. Starratt, of the Emmanuel Episcopal Church in Baltimore.

Registration and luncheon tickets are $4.00 and may be secured from the Washington Area Council on Alcoholism, 929 L Street, N.W., Washington 1, D. C., telephone Hobart 2-2877. There is no fee for the afternoon session.

The 1962 Annual Meeting of the American Society of Medical Technologists will be a joint session with the Canadian Society of Laboratory Technologists, to be held at the Sheraton Park Hotel in Washington, June 17–22. Miss Evelyn F. Ballou, of Washington, is General Chairman.

Dr. J. Spencer Dryden, President of the Medical Society of the District of Columbia, has been invited to be present at the opening session, June 18, and extends greetings to all of the delegates.

A cordial invitation is extended by Miss Ballou to all members of the Society to attend as many scientific sessions as possible, as well as the scientific and commercial exhibits.

General News

The Executive Board of the Medical Society of the District of Columbia held its regular meeting March 26, with Dr. James W. Watts, Chairman, presiding. In response to an appeal from the National Society of Medical Research, the Board voted to contribute $100.00. The last contribution for the work of this Society was made in August 1960.

The Secretary reported that the various committees had been appointed for the Second Interstate Scientific Assembly, to be co-sponsored this fall by the Medical Society of the District of Columbia and the Medical Society of Virginia. Dr. C. Willard Camalier, Jr., is General Chairman and Dr. James M. Moss, of Alexandria, Va., Co-chairman. Committee chairmen are:

PROGRAM: Dr. Bernard J. Walsh, Chairman; Dr. Owen Gwathmey,* Co-chairman
SCIENTIFIC EXHIBIT: Dr. Alvin C. Wyman,* Chairman; Dr. Jed W. Pearson, Co-chairman
MOTION PICTURE: Dr. Joel B. Hoberman, Chairman; Dr. Wallace Baker,* Co-chairman
SOCIAL AFFAIRS: Dr. Arthur E. White,* Chairman; Dr. Marcel J. Foret, Co-chairman
FINANCE: Dr. Peter Soyster,* Chairman; Dr. Leon Gerber, Co-chairman
PUBLICITY: Dr. Paul R. Wilner, Chairman; Dr. Allan Hall,* Co-chairman
GOLF: Dr. Robert L. Norment,* Chairman; Dr. Weldon A. Price,* Vice Chairman

President Dryden submitted the appointment of Dr. John D. Schultz to the Subcommittee on Alcoholism and Dr. Joseph Chambers, advisor to the committee. These appointments were approved. Dr. Gordon W. Daisley, Jr. and Dr. John M. Keshishian were reappointed to represent the Society on the Health and Welfare Council's Health Conference. Dr. Keshishian later notified the Society that his present schedule precludes his accepting this assignment.

The Secretary reported that Dr. George E. Schreiner has been reappointed to the National

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* Representing the Medical Society of Virginia.

Foundation's Health Scholarship Committee for Washington, D. C., and has accepted the assignment.

In response to petitions from representative thoracic surgeons and general surgeons, the Board voted to approve the establishment of two new sections of the Society, a Section on Thoracic and Cardiovascular Surgery, and a Section on General Surgery, and that they be referred to the Committee on Constitution and By-laws for implementation.

After studying the services and facilities of the Homemaker Service of the National Capital Area, the Committee on Public Health recommended, and the Board concurred, that the organization be endorsed by the Society and that members of the Society be encouraged to take advantage of the unique services it has to offer. Homemaker Service was organized in 1958 to provide care "in the home" when the homemaker is unable to perform her duties because of illness. This service is available not only to indigent but to pay-patients. Offices are located at 1822 Massachusetts Avenue, N.W., telephone 234-5573.

The District of Columbia Department of Public Health has published the latest health regulations relative to **Communicable and Reportable Diseases and Drug Control** in a convenient booklet. It will be distributed to the physicians through the courtesy of the Medical Societies and to the house staffs of the Washington hospitals by the Administrators. Additional copies may be obtained from the Department of Public Health, Room 6150, Municipal Center, 300 Indiana Avenue, N.W. Requests may be made by telephoning National 8-6000, extension 3384.

A chart, 22 by 22 inches, of the Communicable and Reportable Diseases is also available for those physicians who may wish to have this information on a single sheet of durable paper, but they are not readily adaptable for mailing.

Exhibits are solicited for the **Scientific Section of the Southern Medical Association,** which will hold its Annual Meeting, November 12–15, in Miami Beach, Florida, at the Fontainebleau Hotel. Applications may be obtained from the Chairman of the Scientific Exhibit Committee, Dr. George F. Schmitt, 30 S. E. Eighth Street, Miami, Florida.

Dr. Luther L. Terry, Surgeon General of the Public Health Service, announced, April 2, that the **tuberculosis activities of the Service are being moved to Atlanta, Georgia,** by June 30 to be housed with other elements of the communicable disease control activities of the Service. Several years ago the tuberculosis program was made an organizational part of the Communicable Disease Center in Atlanta but remained physically located in Washington. The move, Dr. Terry said, is to bring the tuberculosis program into a closer working relationship with other communicable disease activities.

Dr. John J. Blasko, formerly Commissioner of Mental Health for the State of Connecticut, has been appointed **Director of the Psychiatry, Neurology and Psychology Service for the Veterans Administration,** at the agency's Central Office in Washington. He succeeds Dr. J. F. Casey, who is retiring after more than 30 years of Government service.

Dr. Blasko received his medical degree from St. Louis University School of Medicine in 1935. He is certified in psychiatry by the American Board of Psychiatry and Neurology. He has been a faculty member of the Departments of Psychiatry of the Louisiana State, Tulane, George Washington, and Yale Universities.

"United States Adopted Names" (USAN) will be the new term applied to nonproprietary names of drugs by the recently formed Drug Nomenclature Committee of the American Medical Association and the United States Pharmacopeia. The primary objective of the new committee is to find a single, suitable, nonproprietary name for each drug in general use.

The term "USAN" does not mean that the names are adopted by or have specific sanction from the Federal Government. It applies only to those names chosen by the AMA-USP Nomenclature Committee since its establishment in June, 1961. While, in general, the Committee is concerned with USAN for new drugs, it has acted upon some "generic names" that were in use prior to June of last year. To date, the Committee has assigned USAN to more than 100 new compounds of therapeutic interest. Lists of USAN are now being made available for publication.

Information on the AMA-USP program may be obtained upon inquiry to Dr. Joseph B. Jerome, Assistant Secretary, Council on Drugs, AMA, 535 North Dearborn Street, Chicago 10, Illinois.

Dr. George Halsey Hunt and Mr. Theodore Wiprud were honored by the **International Medical Club of Washington,** March 17, at a luncheon at the Mayflower Hotel. Dr. Arthur A. Morris, President of the Club, presided. Dr. Hunt has retired as Chief of the Division of General Medical Sciences of the National Institutes of Health; Mr. Wiprud will retire as Executive Director of the D. C. Medical Society, July 1.

New officers were elected at this meeting. They are:

Dr. Donald Stubbs, *President*; Drs. Harry Lee Claud, Donald H. Leeper, and Willy E. Baensch, *Vice Presidents*; Dr. Robert V. Choisser, *Secretary*; Dr. Oscar B. Hunter, Jr., *Treasurer*; and Dr. A. B. Bennett, *Historian*.

The Washington Psychiatric Society held its annual meeting in the D. C. Medical Society's auditorium, March 23. As is customary on this occasion, the President of the American Psychiatric Association was invited to be the guest speaker. Dr. Walter E. Barton, of Boston, spoke on "Therapeutic Advances in Psychiatry; a World View."

The following new officers were elected at this meeting:

Dr. Morris Kleinerman, *President-elect*; Dr. Davis W. Harris, *Secretary*; Dr. Paul Chodoff, *Treasurer*; Drs. Dale C. Cameron and Richard A. Steinbach, *Councillors*.

Dr. Sidney Berman will serve as President during 1962-63.

Friends and colleagues of the late Dr. John Hugh Lyons are establishing **The John H. Lyons Memorial Fund** at the Washington Hospital Center. The Fund, to be administered by the Board of Trustees of the Center, will be used to assist needy patients, including nurses, and to aid in the education of the house staff and nurses at the Center and at any other institutions in which Dr. Lyons was interested.

Members of the Fund Committee include Drs. Daniel B. Moffett, Worth B. Daniels, Crenshaw D. Briggs, Thomas W. Mattingly, Harold H. Hawfield, Mr. Samuel H. Kauffmann, and Mrs. Edward W. Fay. Checks may be drawn to the Washington Hospital Center, indicating that the contribution is for The John H. Lyons Memorial Fund, and mailed to the Administrator, Washington Hospital Center. Washington 10, D. C.

Mademoiselle Jean, 22½ years old, a student and a doctor's daughter, wishes to spend three months in the United States (August, September and October 1962) with a medical family living preferably in the eastern part of the United States. In exchange for her room and board, she will take care of children and give French lessons. Her father, Dr. Raphael Jean, practices general medicine and obstetrics.

Her address is as follows: Mlle. Jean, Route de Toulouse (La Générale), Villenave-d'Orgnon, (Gironde) France.

The request was made originally by Dr. Debuirre, Secretary General of the French Medical Association, to the American Medical Association, which in turn forwarded the letter to the District Medical Society.

Personals

The **Kober Lecturer** for 1962 was **Dr. Zigmond M. Lebensohn.** His address, "American Psychiatry—Retrospect and Prospect" was delivered in the Gorman Auditorium of Georgetown University Hospital, March 28, to a large audience. His was the thirty-eighth Kober Lecture, an annual presentation sponsored by Georgetown University with funds provided for this purpose by the late Dr. George Martin Kober, Dean of Georgetown for many years.

The Kober Lecturer is selected by the Medical Society of the District of Columbia every third year. Dr. Lebensohn, the Society's electee for 1962, is Clinical Professor of Psychiatry at Georgetown and Chief of the Department of Psychiatry at Sibley Memorial Hospital.

Dr. Lebensohn received his degree in medicine from Northwestern University School of Medicine in 1934. His residency in psychiatry was completed at St. Elizabeths Hospital, Washington, and he followed this with postgraduate work at the National Hospital in Queen's Square, London. During the

ZIGMOND M. LEBENSOHN, M.D.
1962 Kober Lecturer

War years he served as a Naval medical officer and now holds the rank of Commander in the Naval Reserve.

From the beginning of his professional career, Dr. Lebensohn has distinguished himself as a neurologist and psychiatrist. He is a diplomate of the American Board of Psychiatry and Neurology, and has taught at both George Washington University and Georgetown, where he continues on the faculty. He belongs to numerous scientific organizations and has contributed to the literature in his field articles on both scientific and nonscientific subjects.

Dr. William B. Walsh, founder and President of Project Hope, received an honorary doctorate of science degree from Georgetown University at its annual Founder's Day Convocation, March 22. Dr. Walsh is an alumnus of Georgetown.

The Very Reverend Edward B. Bunn, S.J., President of the University, conferred the degree "in grateful tribute to him and to all his fellow workers, in recognition of the auspicious and happy results already attained in Southeast Asia. . . ."

Dr. Fred R. Sanderson, Professor of Surgery Emeritus, Georgetown University, was one of six alumni honored by the Georgetown Alumni Club of Washington at the 12th Annual Awards Luncheon, March 16, at the National Press Club. The awards recognized significant contributions to the community and the Government. Among the recipients was Dr. Israel Shulman, President of the District Dental Society.

Dr. R. Lomax Wells, Medical Director of the Chesapeake and Potomac Telephone Companies, was elected President of the American Academy of Occupational Medicine at its annual meeting in February.

Dr. Wells was recently selected by the Board of Trustees of the American Medical Association to serve on its Council of Occupational Health.

Study of Juvenile Rheumatoid Arthritis

The coöperation of physicians in nearby areas is requested in a comprehensive study of juvenile rheumatoid arthritis (Still's disease) recently reopened at the Clinical Center, National Institutes of Health, Bethesda, Md. The study, conducted by the National Institute of Arthritis and Metabolic Diseases, consists of an intensive search for a possible causative microörganism.

Juvenile rheumatoid arthritis is characterized by single or multiple joint inflammation beginning prior to age 14. The systemic reaction is frequently severe, with high fluctuating fever, generalized adenopathy, splenomegaly, weight loss, pleuritis, pericarditis, evanescent salmon-pink rash, leukocytosis, and elevated ESR. Children with severe systemic manifestations, especially those early in their course, are particularly suitable for this study.

Accepted patients will be studied for several weeks. A comprehensive and individualized therapeutic program will be instituted for each patient to include appropriate medication, physiotherapy, and supportive measures. Upon completion of their study, patients will be returned to the care of their referring physicians, who will receive a complete narrative summary. Occasional follow-up visits may be desirable in some instances. These would supplement rather than substitute for visits to the patient's own physician.

Physicians who wish to have their patients considered for this study may write or telephone Dr. Joseph J. Bunim. Clinical Director, or Dr. K. Lemone Yielding, Senior Investigator, National Institute of Arthritis and Metabolic Diseases, Bethesda 14, Md.; telephone 496-4181 (area code 301)—Dr. Bunim; 496-2936 (area code 301)—Dr. Yielding.

Around the World Tour

A tour around the world for members of the Medical Societies of the District of Columbia and the State of Maryland, their families and friends, is being arranged. The group will leave on November 3, 1962 and return on December 5, 1962, but a later return date may be arranged at the option of any member. This tour is timed to coincide with the General Assembly of the World Medical Association, which will be held in New Delhi, India, in November. Application forms for this convention will be available before leaving in order to conserve valuable time in New Delhi.

There will be two alternate routes to New Delhi, where the two groups will meet; route 1, Idlewild—Athens—New Delhi; route 2—Idlewild—Helsinki—Leningrad—Moscow—New Delhi. The price will be the same.

After leaving New Delhi the tour will take members to Agra (with the Taj Mahal by moonlight), Bangkok, Siem Riep (with the Angkor Wat), Pnomh Penh, Hong Kong, Macao, Osaka, Kyoto, Nikko, Tokyo, Honolulu, Los Angeles, and return home. The hotels will be first class deluxe, with twin-bedded rooms and private bath. A comprehensive sightseeing program is being planned, but there will be free time in each city for shopping and individual exploration. There will be a minimum of one-night stops to avoid travel fatigue usually encountered in trips of this type.

Trans-Atlantic travel will be by TWA Jet, trans-Pacific by Japan Airlines Jet, and trans-Continental by TWA Jet. Intervening air travel will be by Jet when available. A very attractive price, $1,895.00, will include all transportation, hotels, basic meals, basic service charges, and sightseeing.

Although the tour is not officially sponsored by the D. C. Medical Society, its Executive Board has authorized publicizing the tour in the MEDICAL ANNALS.

Dr. Lester Neuman is acting as advisor for the D. C. group. A brochure containing a detailed itinerary and other information will be mailed to all members. In the meantime, inquiries may be directed to the International Travel Center, 7420 Waverly Street, Bethesda, Md.; telephone Oliver 6-1670.

Letters to the Editor

PHYSICIAN WANTED PART-TIME BY CENSUS BUREAU

This refers to our conversation, March 8, relating to the possibility that you may be of some assistance in helping us to obtain a physician in connection with our proposed Executive Health Maintenance Program.

Over the past few months the executive management of the Bureau of the Census has given considerable study to the possible improvement in the health services rendered to employees. To this end we have had several discussions with U. S. Public Health Service officials concerning the types of service that would be made available if the Bureau entered into an agreement with them to operate a Health Unit for us similar to those now being operated at other Government agencies. We expect that the Public Health Service will be in a position to provide this service not later than July 1, 1962. However, during the interim we are anxious to have the program, but operated by us under the guidance of the Public Health Service. The physician we select must also meet the requirements of the Public Health Service, and it is safe to assume that he will continue in the program when they take over.

Our program calls for a physician two half-days (3 hours) per week to conduct the professional functions of the Health Unit. The frequency could be increased should experience and necessity require it. We could expect that the physician would be a young contract physician establishing a practice in the area. Other Government bureaus with whom we have discussed this matter have indicated a high degree of satisfaction with the quality of the physician. The services we wish to make available under the direction of the physician are as follows:

1. Treatment of on-the-job illnesses and injuries.
2. Treatment of employees at the request or with the

approval of their private physicians, as permitted by the standing orders and/or the medical officer in charge.

3. Referral of employees to private physicians, dentists and other facilities as indicated.

4. Physical examinations as time permits; one per physician visit. Recommended is the examination of employees forty years of age and over under the Employee Health Maintenance Program; other types as time permits.

5. Health counseling regarding health and other problems of concern to the employee.

6. Assistance and coöperation with the Bureau regarding safety and environmental sanitation problems.

7. Interpretation to personnel of results of preëmployment physical examinations.

8. Dissemination of health education material and conducting of health education programs (movies, lectures, exhibits, etc.).

9. Follow-up of selected cases—trying to get an employee to his private physician; seeing that he follows his doctor's orders; bringing him back to the Health Unit for periodic check-ups, etc. Also selecting cases, based on the information in the Health Unit's records, who appear to have conditions more deep-rooted than those for which they request palliative treatment, and proper referral of such cases.

10. Mass immunization programs for such as polio and flu. Other immunizations as deemed appropriate.

11. Continuous testing of all or selected groups of employees for such conditions as defective vision, glaucoma, hypertension, etc.

12. Mental and emotional evaluations to determine whether or not an employee needs psychiatric therapy.

13. Selected preëmployment physical examinations.

We are currently permitted to pay $25.00 for one physician visit (3 hours).

You may reach me by telephoning Redwood 5-2000, extension 511. Your assistance is appreciated.

Sincerely yours,
CECIL B. MATTHEWS
Chief, Employee Relations
and Services Branch,
Personnel Division,
Bureau of the Census,
United States Department of Commerce

PHYSICIANS WANTED PART-TIME BY PHS

Pursuant to your conversation with Dr. Arvo B. Ederma on March 22, 1962, we are very happy to give you the following information pertaining to the availability of young physicians who would be willing to work in their spare time for the Public Health Service on a contractual basis.

At present, we are in need of a physician who would once a week leave the Washington National Airport at 7:00 a.m. to Wallops Island, Virginia, complete about 6 hours of work in our Health Unit and return by plane to Washington at 7:00 p.m. The plane ride will be free of charge to the physician. The work is in connection with the Health Unit of the National Aeronautics and Space Administration which is operated by the PHS.

We will pay the physician a minimum of $100.00 per visit to the Wallops Island PHS Health Unit.

Also at present we are in need of a physician who would be willing to work for us in Washington three hours a week on a contractual basis.

We would appreciate it very much if this information could be published in your journal.

Thank you very much for your kind attention to this matter.

Sincerely yours,
JOHN B. HOZIER, M.D.
Chief, Federal Employee Health Program,
Division of Hospitals, Bureau of
Medical Services, Public Health Service,
United States Department of Health,
Education, and Welfare

Obituaries

WENDELL A. PARKER, B.S., M.D., F.A.C.S.

(1907–1962)

Dr. Wendell A. Parker, Washington surgeon, died, March 20, 1962 at the U. S. Naval Hospital in Bethesda after a long illness.

Dr. Parker was born in Lakewood, Ohio, May 12, 1907, to Wendell E. and Ann Parker. He attended schools in Cleveland, Ohio, and received the degree, Bachelor of Science, from the University of Dayton at Dayton, Ohio. He received his medical degree from St. Louis (Missouri) University in 1936.

After interning at St. Vincent's Charity Hospital in Cleveland, he enrolled for postgraduate study in surgery at the University of Pennsylvania Graduate School of Medicine. He was resident surgeon at Mercy Hospital in Canton, Ohio, Coaldale State Hospital, Coaldale, Pa., and Broadstreet Hospital, New York City. He was Chief Resident in Surgery at Doctors Hospital, Washington, D. C., in 1940, and Assistant Resident in Surgery at Flower-Fifth Avenue Hospital, New York, during the latter half of the same year.

Dr. Parker interrupted his surgical practice in Cleveland, Ohio, to serve for four years in the Medical Corps of the U.S. Army Air Force during World War II, with two years of duty in England and in Iceland. He held the commission of Major.

After the War Dr. Parker resumed his surgical practice in Washington. For six years, 1946–52, he was Chief Surgeon at St. Elizabeths Hospital. He was also Attending Surgeon at Doctors Hospital, and on the Executive Teaching Staff at Doctors from 1952 to 1956.

For the next two years Dr. Parker practiced in Cleveland, Ohio, returning to Washington to serve as Chief of Surgery in the Veterans Benefit Office of the Veterans Administration. When he retired last October he received a citation from Dr. William A. Middleton, VA Medical Director, in recognition of "his outstanding and administrative ability in advancing the surgical, as well as the entire Veterans Administration medical program in the treatment of veterans."

Dr. Parker was a diplomate of the American Board of Surgery and a Fellow of the American College of Surgeons and the International College of Surgeons. He was an Active member of the D. C. Medical Society from 1947 to 1956, when he transferred to Associate membership, and was reëlected Active in 1958. He was a member of the American Medical Association, the Association of Military Surgeons, the Ohio State Medical Association, and the Cleveland Academy of Medicine. He was also a member of the Kiwanis Club and the University Club of Washington.

Surviving him is his wife, Mrs. Lillian Parker, who lives at 5626 Massachusetts Avenue, Sumner, Md.

JOHN WARREN CASADY, B.Sc., M.D.

(1905–1962)

Dr. John Warren Casady, an Active member of the Medical Society of the District of Columbia, died March 3, 1962, at Georgetown University Hospital.

Dr. Casady was a Washingtonian, born October 23, 1905, to John C. and Rose E. Casady. He was a graduate of old Central High School. He received two degrees from Georgetown University, Bachelor of Science in Medicine in 1926 and Doctor of Medicine in 1930. He interned the following year at Sibley Memorial Hospital.

Dr. Casady continued his studies as a fellow in internal medicine at Georgetown University from 1931 to 1932. He began practice in the District of Columbia in the latter year. He was on the hospital staffs of Georgetown and Sibley.

He was elected to Active membership in the D. C. Medical Society in 1937. He was also a member of the American Medical Association.

His home was at 4000 Tunlaw Road, N.W. For more than 25 years his home and offices were combined at 5022 Reno Road, N.W.

Surviving him are his wife, Mrs. Maude Quinter Casady, and a daughter, Mrs. Robert Compton, of Silver Spring, Md. He also leaves a brother, Dr. William R. Casady, a Washington dentist.

Adrenocortical Insufficiency—Bacchus

(Continued from page 258)

cedure as well as the procedures for total and reduced 17-ketogenic steroids feasible in office practice.

The methods for the differentiation of adrenal insufficiency in panhypopituitarism and in selective hypoadrenocorticotropinism are outlined above and in table 3.

SUMMARY

A classification of adrenocortical insufficiency based on factual information of adrenocortical physiology and biochemical pathways has been presented. The major steps in adrenal steroidogenesis of clinical importance have been outlined and the clinical syndromes secondary to specific chemical defects discussed. The occurrence of iatrogenic adrenocortical insufficiency of two types and certain differential features have been discussed. It is important that the occurrence of selective zonal adrenal insufficiency is recognized, especially in view of relative unreliability of the usual criteria for adrenal insufficiency.

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Arterial Obstructive Disease—Hufnagel and Conrad

(*Continued from page 262*)

An extensive series (over 500 patients) has pointed out that the operative risk for such patients is very low and the results very gratifying. The risk for reconstructive surgery is primarily related to the concomitant arteriosclerotic involvement of other major organs of the body. This risk has been approximately 2 to 3 per cent in this group. Successful reconstruction and reëstablishment of arterial continuity has been extremely high in abdominal reconstructive procedures. Complete restoration of the arterial tree and maintenance of this patency has been obtained in approximately 95 to 98 per cent in intra-abdominal procedures. Reconstructive procedures involving the distal extremities have been fraught with some problems which over the years have decreased; at present long-range good results occur in 75 to 80 per cent. Due to the smaller size of the vessels and the problem of adequate terminal arterial perfusion this type of procedure has not as yet attained the same degree of excellence which is present in the higher obstructive processes.

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Juvenile Amputee Program—Epps and Brennecke

(*Continued from page 298*)

N.B. The authors gratefully acknowledge the assistance of the other members of the clinic team: Miss Helen Vaughn and Miss Rena Graham, therapists, and Mr. John Hile, prosthetist.

REFERENCES

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President's Page: Who Speaks for Medicine?

(*Continued from page 281*)

of medical care for our population. Their sense of urgency is understandable, because the argument on which they stake the need for their program is rapidly disappearing. In their effort to make it appear to the American public and to Congress in particular that physicians generally support their position, a small group of sympathetic physicians were, according to the press, "invited" to Washington.

The 27 physicians who visited the White House have a right to express their personal views, but, of course, it should be clearly understood that this is exactly what they have done and nothing more.

J Spencer Dryden

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

Bequest Funds

March 31, 1962

THE ARTHUR J. HALL BEQUEST (1931): $221.59

Purpose: To be placed in the Society's Charity Fund, to be expended as members deem advisable.

THE GEORGE MARTIN KOBER BEQUEST (1934): 11,676.54

Purpose: "To pay the sum of six thousand dollars ($6,000.00) to the Medical Society of the District of Columbia, the income to be devoted for the relief of old or infirm physicians."

THE WILFRED M. BARTON BEQUEST (1934): 2,111.49

Purpose: "The principal thereof and the income therefrom shall be used in the sole discretion of the Executive Committee in affording relief and assistance to worthy young graduate physicians during their first year of practice."

DAVIDSON LECTURE FUND (1937): 247.73

Purpose: "That the Medical Society of the District of Columbia, being desirous of suitably expressing its deep sense of grateful appreciation of the priceless services rendered it by Dr. Edward Young Davidson in obtaining its present building, and being no less interested in perpetuating this striking example of disinterested service and true loyalty from one of its members, hereby appropriates the sum of $3,000.00 or as much thereof as may be necessary to establish and endow in perpetuity the Davidson Lecture. This lecture shall be given biennially by a physician or other scientist who shall be nominated one year in advance by the Executive Committee. For his services he shall receive an honorarium of $300.00 "

Securities: 444 shares Washington Mutual Investors Funds $3,614.03

KOBER LIBRARY FUND (1951): 2,875.23

Purpose: ". . . that the proceeds from the sale of this stock should be turned over to the Medical Society of the District of Columbia to be used for the upkeep of its Library."

STERLING RUFFIN BEQUEST FUND (1951): 16,383.81

Purpose: "Three/fortieths (3/40) thereof to the Medical Society of the District of Columbia to be used for the relief of ill or superannuated needy Active or Life members of the Society. Awards from this fund shall be made in cash in the discretion of a majority of a special committee of five (5) members appointed by the President of the Society. No member of such committee shall serve for a longer period than two (2) years. Report of expenditures shall be made from time to time by the committee to the Society, without, however, disclosing the names of beneficiaries."

Securities (book value):

$3,000.00 U. S. Treasury Bonds 2½% Due 12/15/72-67	$3,086.53
10 shares American Telephone & Telegraph	487.10
22 shares Chase Manhattan Bank	614.70
21 shares E. I. duPont de Nemours & Co.	970.58
45 shares General Motors Corp.	397.34
146 shares Riggs National Bank, Washington, D. C.	8,252.30
30 shares Standard Oil Co. of Indiana	570.00
36 shares Standard Oil Co. of New Jersey	378.61
30 shares Westinghouse Electric Corp.	318.75
Total book value of stock	$15,075.91

FRANK M. McCHESNEY FUND (1959): 528.06

Purpose: For worthy causes as determined by the Executive Board.

CHARLES STANLEY WHITE AWARD (1962): 300.00

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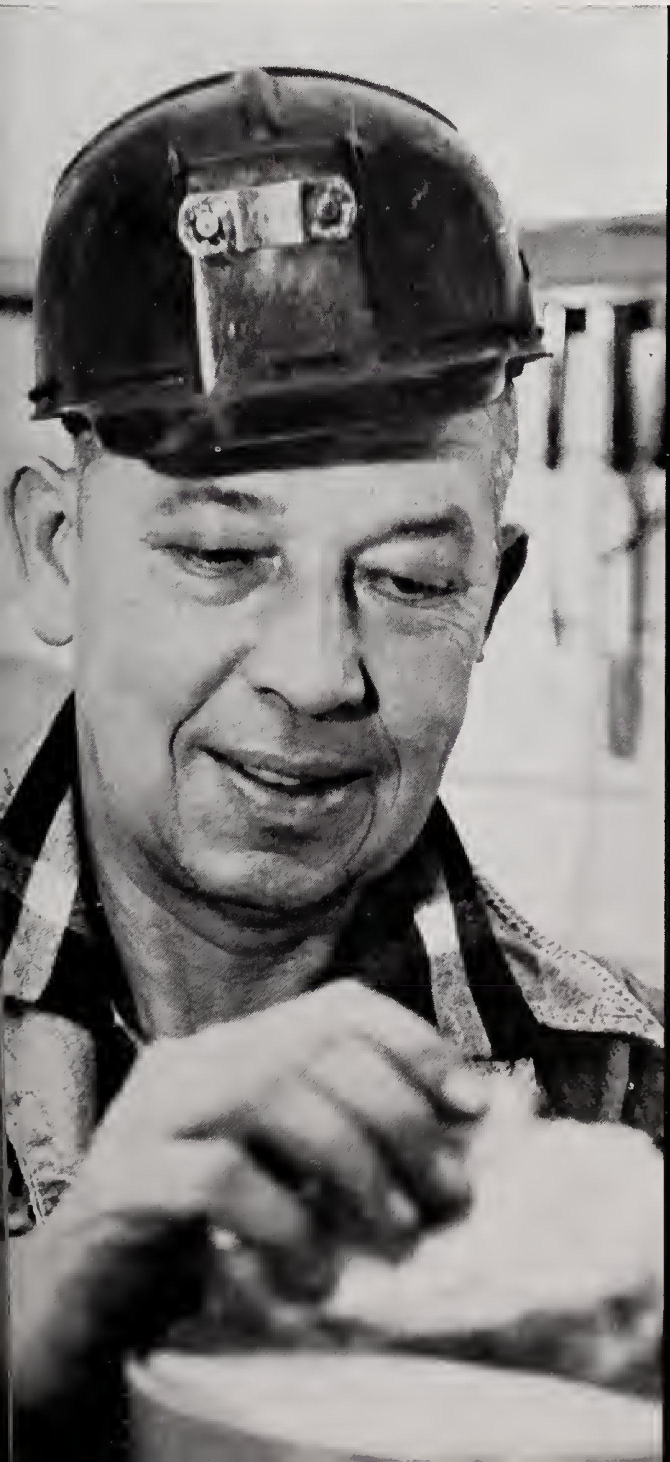

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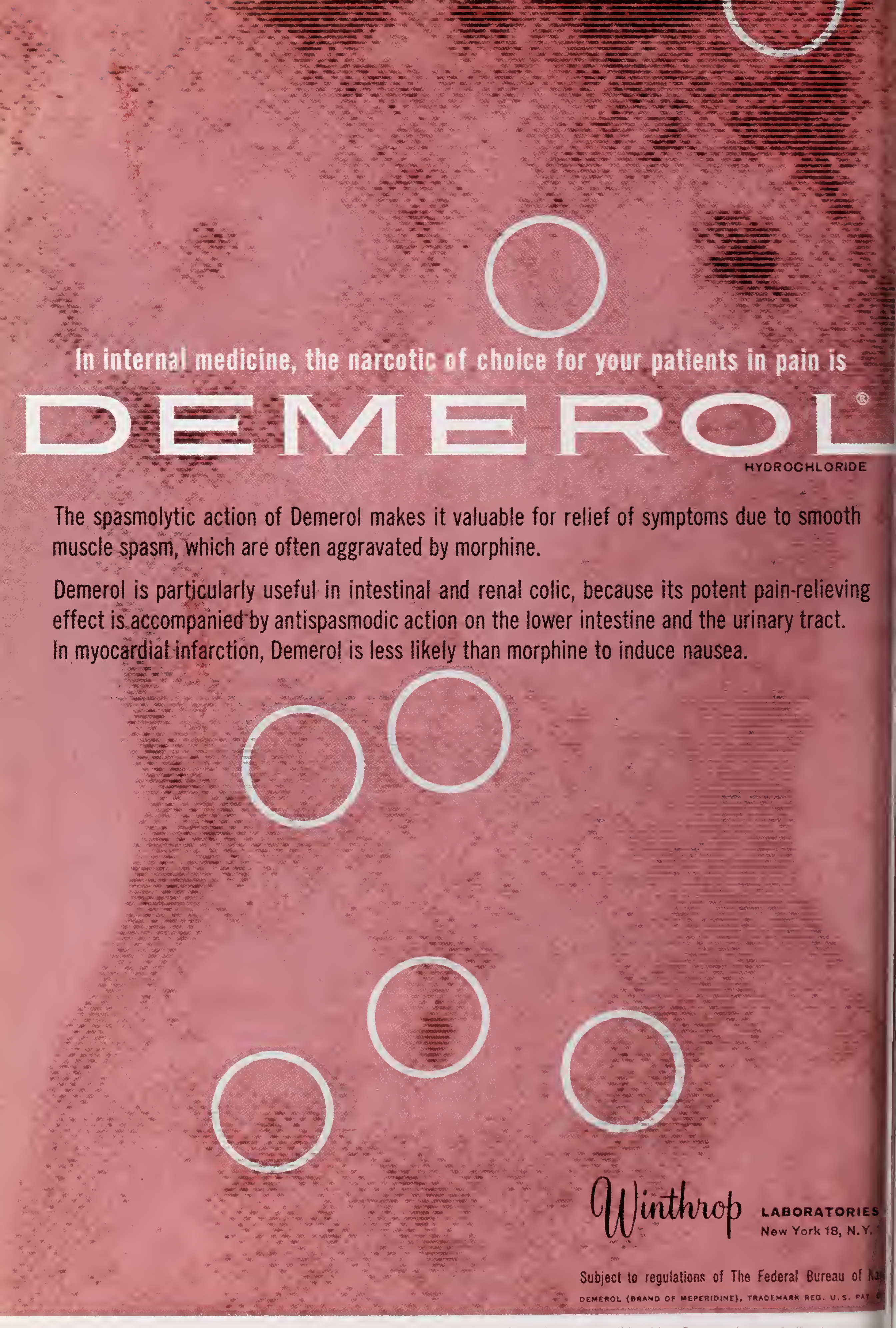

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Side Effects: Panmycin Phosphate is well tolerated clinically and has a very low order of toxicity comparable to that of the other tetracyclines. Side reactions are infrequent and consist principally of mild nausea and abdominal cramps.

Leukopenia has occurred occasionally in patients receiving novobiocin. Rarely, other blood dyscrasias including anemia, pancytopenia, agranulocytosis and thrombocytopenia have been reported. In a recent report it was observed that three times as many newborn infants receiving novobiocin developed jaundice as control infants. For this reason, administration of novobiocin to newborn and young infants is not recommended, unless indication is extremely urgent because of serious infections not susceptible to other antibacterial agents.

The development of jaundice has also been reported in older individuals receiving Albamycin. Serious liver damage has developed in a few patients, which was more likely related to the underlying disease than to therapy with novobiocin. Although reports such as the above are rare, discontinuance of novobiocin is indicated if jaundice develops. If continued therapy appears essential because of a serious infection due to microorganisms resistant to other antibacterial agents, liver function tests and blood studies should be performed frequently, and therapy with novobiocin stopped if necessary.

In a certain few patients treated with this agent, a yellow pigment has been found in the plasma. The nature of this pigment has not been defined. There is evidence that it may be a metabolic by-product of novobiocin, since it has been reported to be extractable from the plasma (pH 7 to 8.1) with chloroform while bilirubin is not. These properties have been employed to differentiate the yellow pigment due to the metabolic by-product of novobiocin and bilirubin. However, recent reports indicate that this method of differentiation may be unreliable.

Urticaria and maculopapular dermatitis have been reported in a significant percentage of patients treated with Albamycin. Upon discontinuance of the drug, these skin reactions rapidly disappeared.

Warning: Since Albamycin possesses a significant index of sensitization, appropriate precautions should be taken in administering the drug. If allergic reactions develop during treatment and are not readily controlled by antihistaminic agents, use of the product should be discontinued.

Total and differential blood cell counts should be made routinely during the administration of Albamycin. If new infections appear during therapy, appropriate measures should be taken; constant observation of the patient is essential. If a yellow pigment appears in the plasma, administration of the drug should be continued only in urgent cases, and the patient's condition closely followed by frequent liver function tests. In case of the development of liver dysfunction, therapy with this agent should be stopped.

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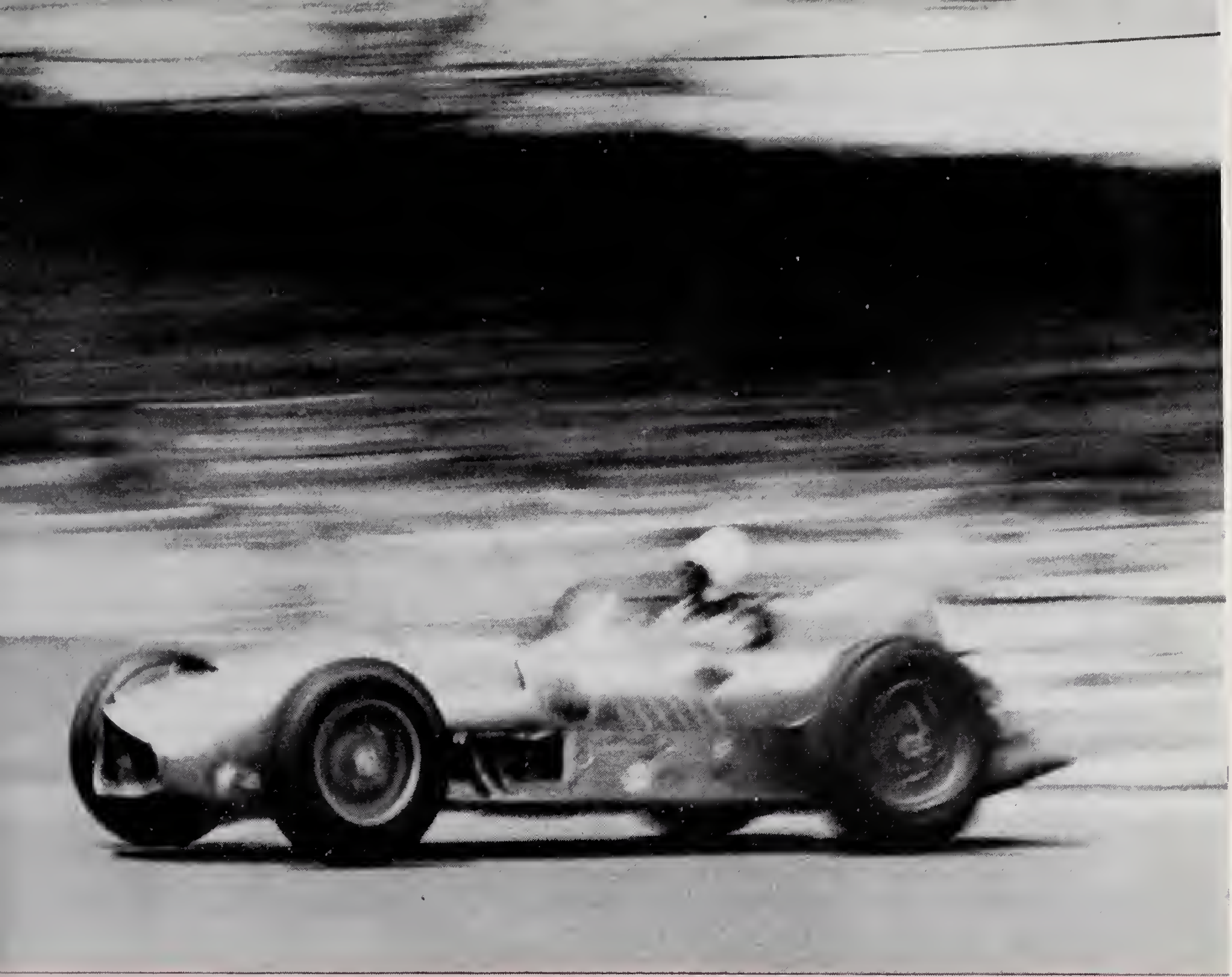

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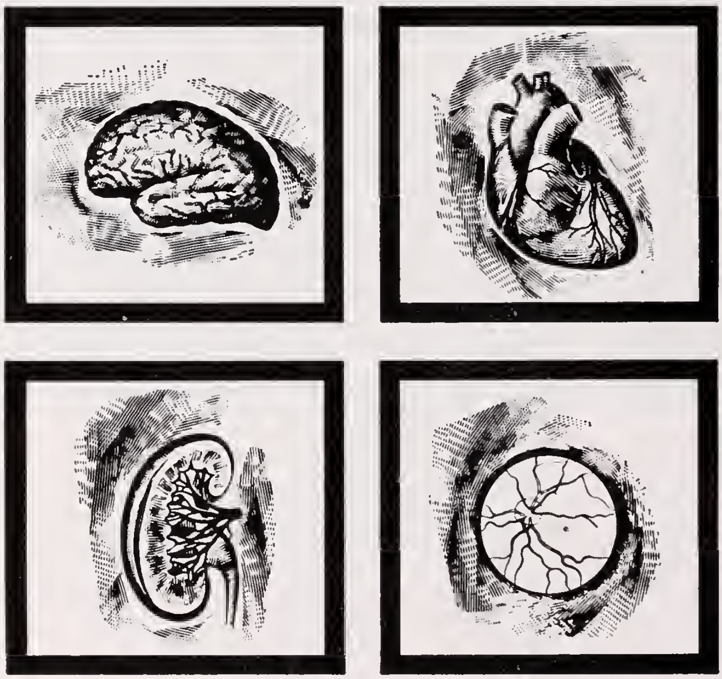

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[1] Ford, R. A., and Blanchard, K: Journal-Lancet 78:185, 1958

Formula: In each persian-rose enteric-coated tablet: potassium salicylate 0.3 Gm., potassium para-aminobenzoate 0.3 Gm., ascorbic acid 50.0 mg.

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*Schwartz, I. R.:
Current Therap. Res. 3:29, Feb., 1961.

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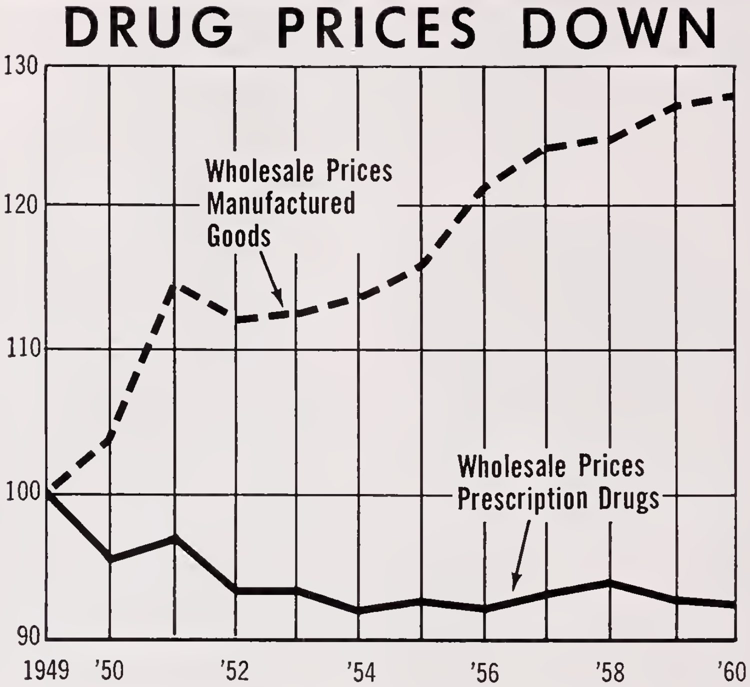

Despite ten years of inflation, wholesale prices of prescription drugs have not risen to keep pace with increased manufacturing and distribution costs. This chart compares the wholesale prices of all manufactured goods, up 26.7 percent, with the wholesale price of prescription drugs, down 7.6 percent, during the period 1949-1960.

Source: U.S. Bureau of Labor Statistics, Wholesale Price Index; John M. Firestone, Assoc. Professor, College of the City of New York. Base, 1949 — 100.

Over the past two years, there's been a lot of talk in the press about "the high price of drugs." You've read it yourself—and probably many of your patients have asked about it.

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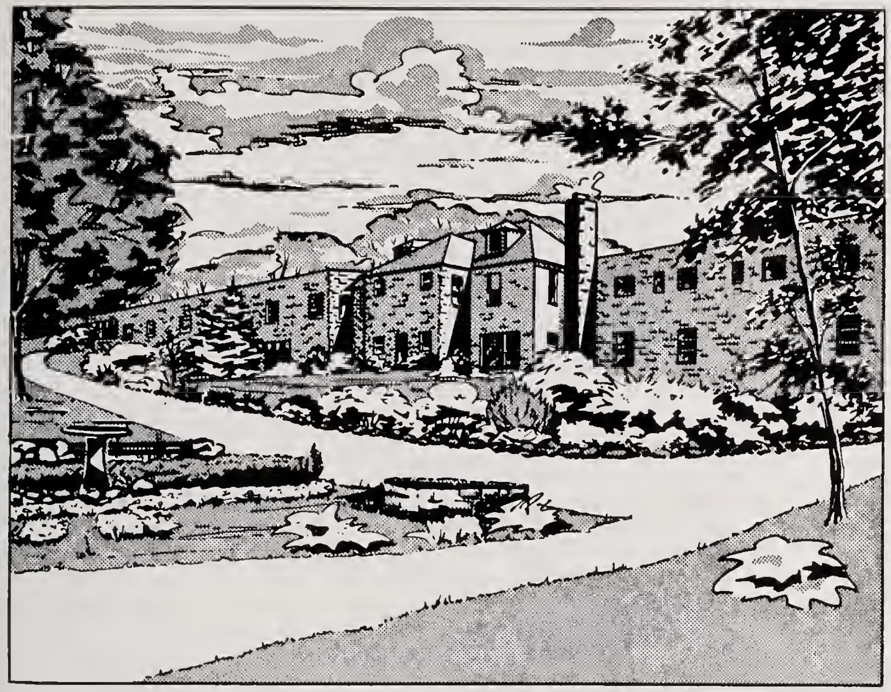

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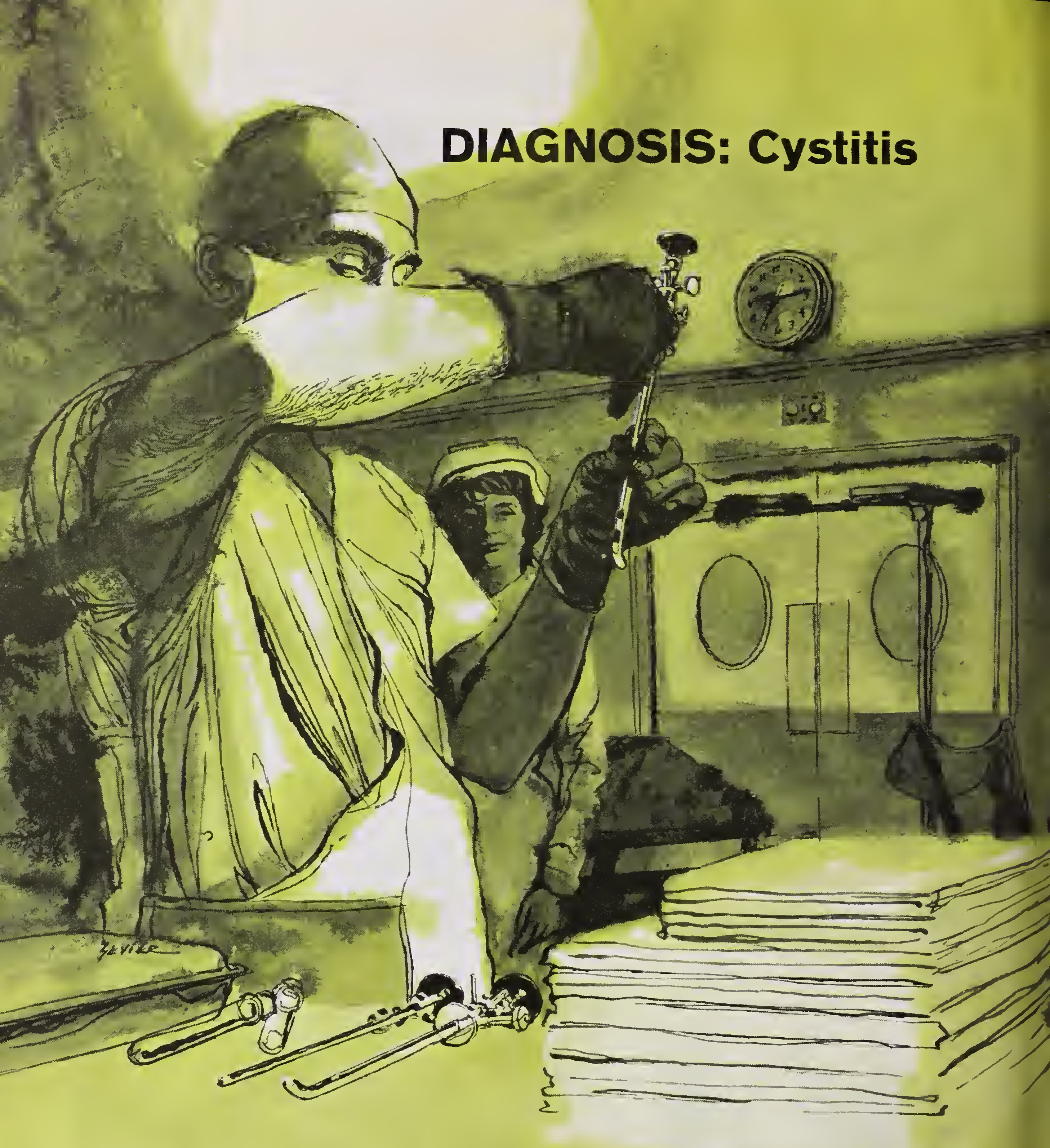

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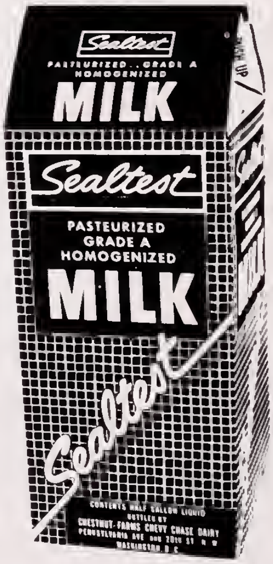

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1. Hodges, F. T.: *GP* 14:86, Nov., 1956.
2. Guild, B. T.: *Arch. Dermat.* 51:391, June, 1945.

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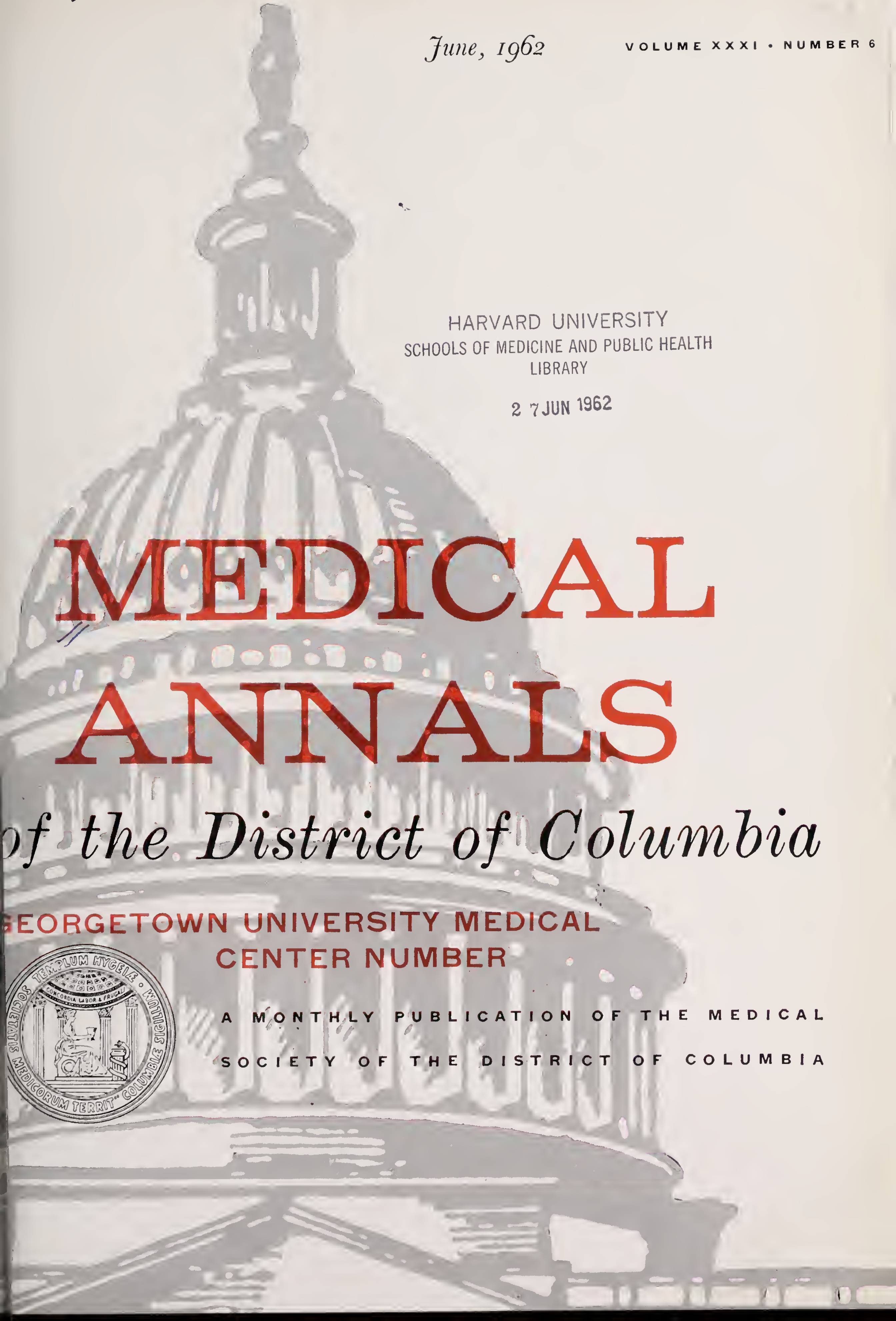

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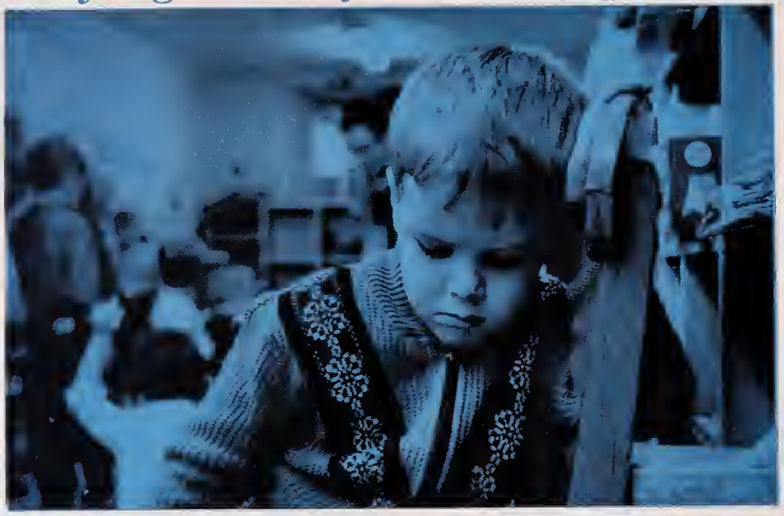

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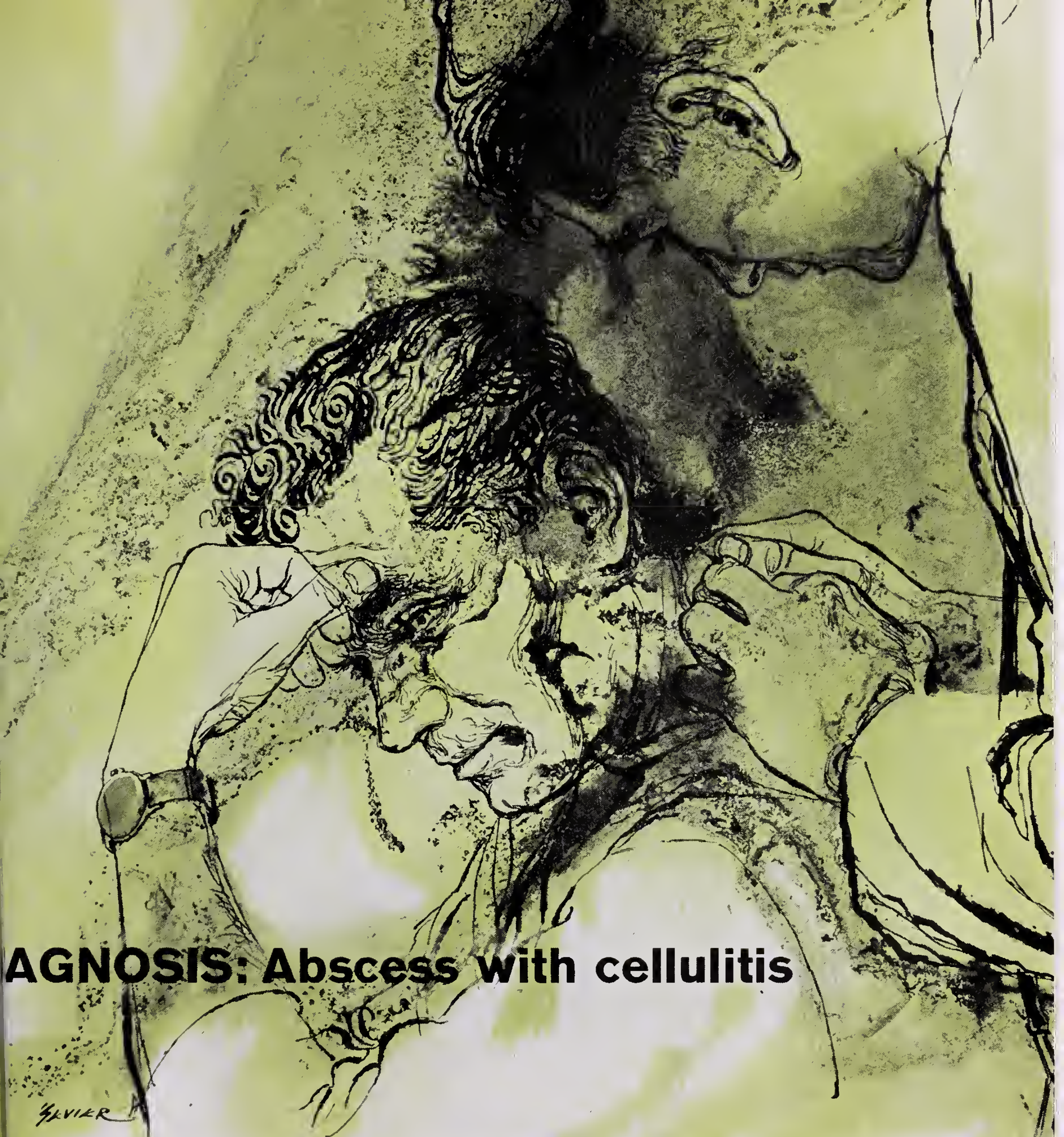

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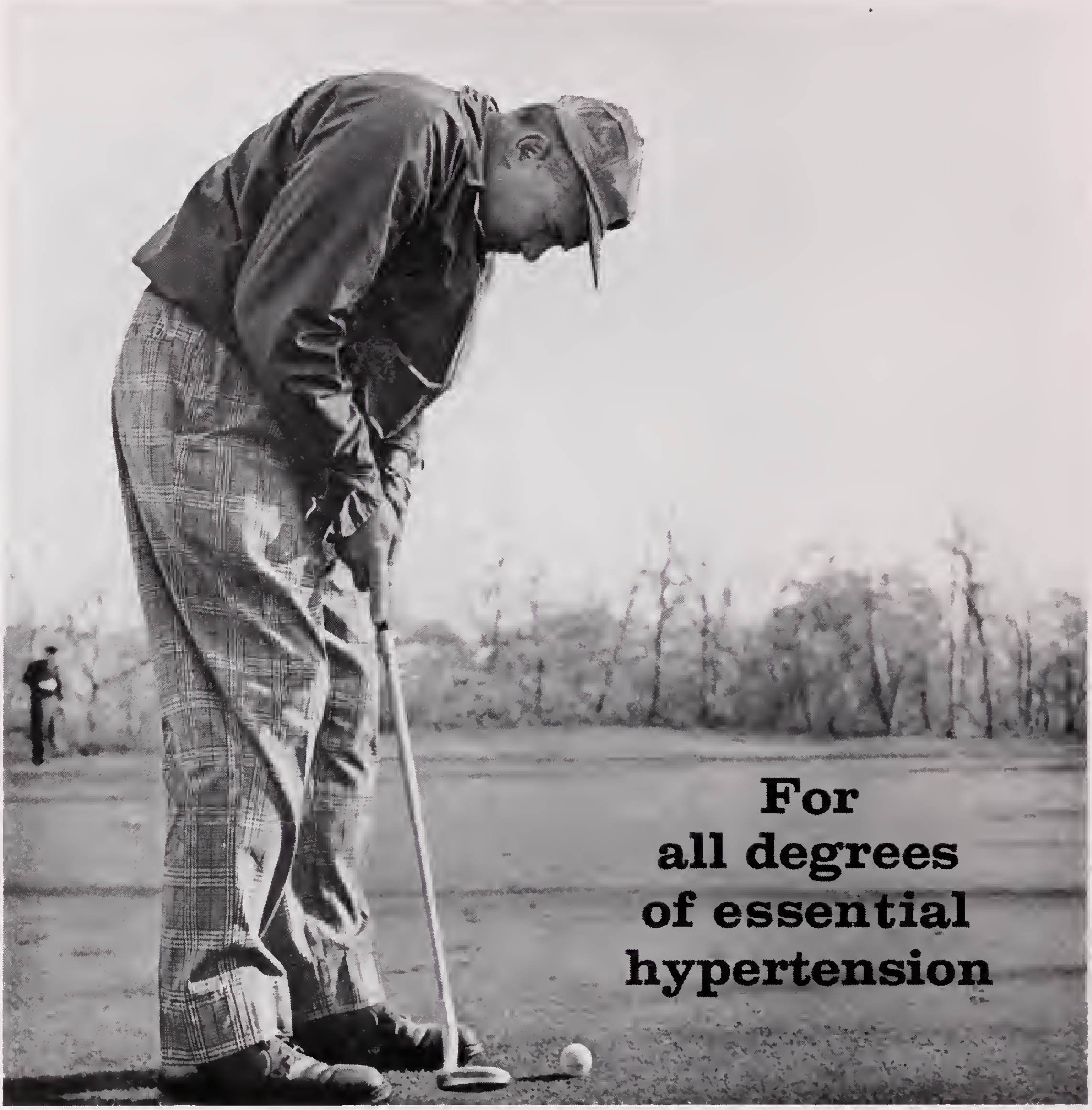

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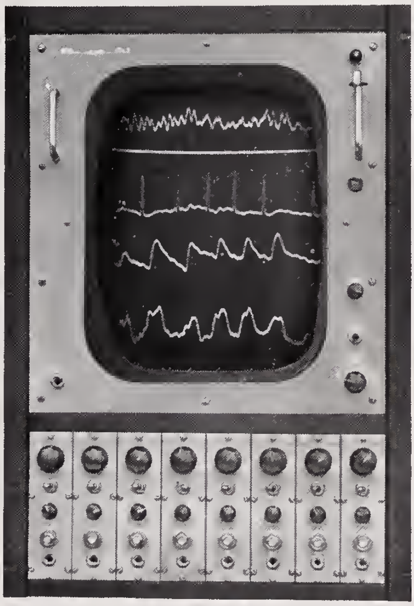

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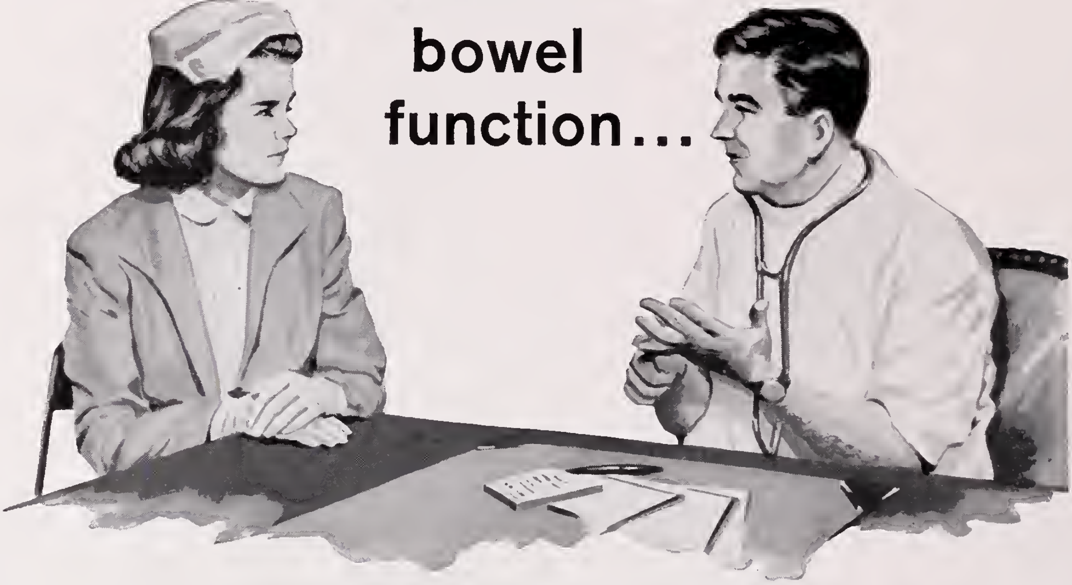

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1. Tainter, M. L., and Buchanan, O. H., Ann. N. Y. Acad. Sc. 58:438, 1954.
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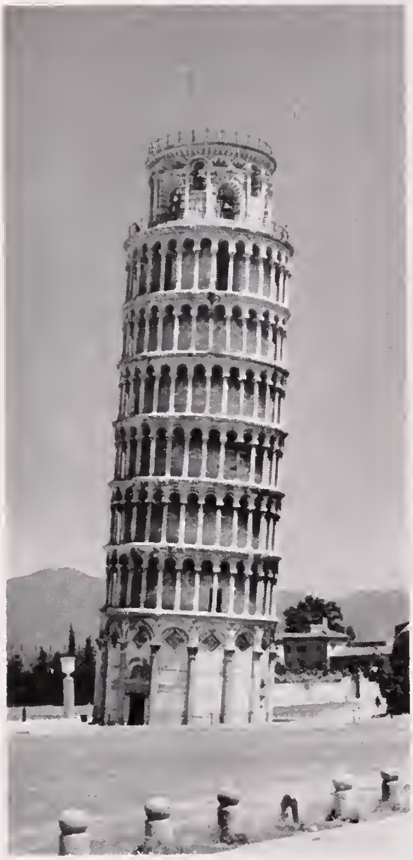

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2. *Thyroid-Androgen Relations*, L. Hellman, et al., *The Jrl. of Clin. Endocrinology and Metabolism, August 1959.*

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BOOK REVIEWS

The Science of Dreams. Edwin Diamond. Price, $4.50. Pp. 264. Garden City, N. Y.: Doubleday, 1962.

"The Science of Dreams" by newspaper science writer and editor, Edwin Diamond, is a well written and interesting account primarily of recent research in dreams with some references to dream folklore and various dream theories. It is my opinion that this book would not be useful to the medical profession, especially psychiatrists, since the author's approach seems geared to popular or lay consumption, although the essential points in the book are accurate.

Douglas B. Price, M.D.

General Pathology, 3rd ed. Based on lectures delivered at the Sir William Dunn School of Pathology, University of Oxford. Edited by Sir Howard Florey, M.D., F.R.C.P. Sixteen contributing authors. Price, $22.00. Pp. 1104, illustrated. Philadelphia: Saunders, 1962.

One not familiar with previous editions of this book may find the title deceptive, as there has been no effort on the part of the authors to describe many of the specific morphologic changes wrought by different diseases and neoplasms. The material is based on lectures delivered at the Sir William Dunn School of Pathology, University of Oxford, by the various authors on subjects in which they have a special interest.

The medical student will find this an excellent companion book to the usual textbook on pathology as an aid in understanding the basic factors causing disease and the gross and microscopic changes in the various tissues and organs. The physician will find in one volume a collection of information concerning subjects such as the epidemiology of cancer, the effects of irradiation, the cellular tissue reactions to viruses, the reactions of blood to injury, rather than having to widely search the literature for this information. A timely addition is the chapter on "The Immunology of Tissue Transplantation."

There has been considerable revision of the text along with the addition of new material, including illustratons utilizing the electron microscope in the study of inflammation, healing and the cellular and tissue reaction to viruses.

The fact that this book has gone through three revisions and one reprinting during the past eight years gives evidence of its appreciation and acceptance by students and physicians in this country and abroad.

E. Clarence Rice, M.D.

Ophthalmic Pathology. An Atlas and Textbook, 2nd ed. Edited by Michael J. Hogan, M.D., and Lorenz E. Zimmerman, M.D. Published under the sponsorship of The American Academy of Ophthalmology and Otolaryngology and the Armed Forces Institute of Pathology. Price, $30.00. Pp. 797, with 703 illustrations. Philadelphia: Saunders, 1962.

This splendid book results from a long-standing collaboration between the Armed Forces Institute of Pathology and the American Academy of Ophthalmology and Otolaryngology. It is an important example of what is possible when the Federal and non-Federal establishments pull together.

In the present work, 15 contributors and five consultants have synthesized a modern system in Ophthalmic Pathology, utilizing mainly the very large collections available to the Armed Forces Institute. In this way the educational opportunity offered by having such concentration of material at one center is utilized to the fullest extent.

Integrated with the text, in 13 chapters, are more than 700 figures in black and white and three color plates. There are ten chapters dealing with the eye itself, three on the adnexal regions, and an important first one covering the principles of general pathology. Looking back several years to the first edition, the editors have given us, in fact, a new text with all aspects revitalized by inclusion of research data.

As the work continues to evolve we will need a regular revision in order that the dynamic aspects of this pathology are brought constantly to our attention. In this way communication between pathology and research would expand. Also needed are more external photographs of lesions *in situ* and simple drawings to illustrate basic points to the nonpathologist. These last are small points, however, and do not detract from the important new work now at hand.

J. O'Rourke, M.D.

Medical Genetics 1958–1960: An Annotated Review. Victor A. McKusick, M.D., and Contributors. Price, $14.50. Pp. 534, illustrated. St. Louis: Mosby, 1961.

The book is divided into three sections, each of which represents an annual review of medical genetics. These were originally published in the *Journal of Chronic Diseases* for the years 1958–59–60.

Each section begins with a review of the literature, followed by a discussion of various aspects of basic genetics, then individual chapters on the genetic aspects of individual organs or systems. At the end of each part is an extensive bibliography on the publications in the field for that year.

(*Continued on page 16*)

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Book Reviews

(*Continued from page 14*)

The material covered includes case reports, monographs, symposia and textbooks. Among the more complete works referred to are: Stanbury et al's "The Metabolic Basis of Inherited Disease" and "Recent Advances in Human Genetics," and Hsia's "Inborn Errors of Metabolism."

The composition of the book made it necessary to refer to some subjects in three different places, which will be a decided inconvenience to anyone reviewing the subject; e.g., Klinefelter's syndrome is represented in the chapter on the genital system for all three years. However, I think the content of the book is so complete that it will serve as *the* general reference on the subject until an equally complete review is written in which the format will be arranged in a more convenient manner, i.e., according to subject.

The book is well bound and constructed, and printed clearly on good quality glossy paper.

Adolph A. Friedman, M.D.

Textbook of Endocrinology, 3rd. ed. Edited by Robert H. Williams, M.D. With contributions by 21 authorities. Price, $21.00. Pp. 1204, with 333 illustrations. Philadelphia: Saunders, 1962.

This is the third edition of this very popular and most valuable textbook of endocrinology and metabolism. In addition to the author 20 other well-recognized authorities in this field have contributed. The first two editions were published in 1950 and 1955. Because of the recent vast amount of research, of publications, and the increasing accumulation of knowledge in this area, this is essentially a new book. A few of the more recent subjects covered are evaluation of pituitary function by the methopyrapone test, the auto-immunologic aspects of thyroiditis, genetic abnormalities in various endocrine disorders with methods of determining chromosomal sex alterations, and possible new entities such as excessive secretion of antidiuretic hormone.

This is a most comprehensive and up-to-date text. It will be hard for experts in this field to find subjects that have been overlooked. The material is well organized and illustrated. In a few isolated instances the table of contents should be more detailed for easier reference. There are 110 pages devoted to the adrenal glands, yet the table of contents subdivides this section only into embryology, adrenal cortex, and adrenal medulla. The section dealing with hyperaldosteronism is rather sketchy, especially in view of all the recent publications and interest in this condition.

The book contains 22 chapters. There is a chapter devoted in great detail to each endocrine gland, containing an abundance of the most recent information. In addition, there are highly informative sections dealing with such related subjects as clinical neuroendocrinology, the effects of hormones on growth, protein, water and electrolyte metabolism, and a very useful chapter on laboratory tests in clinical endocrinology.

This text is highly recommended to all physicians and students who have need for an authoritative reference in the field of endocrinology and metabolism.

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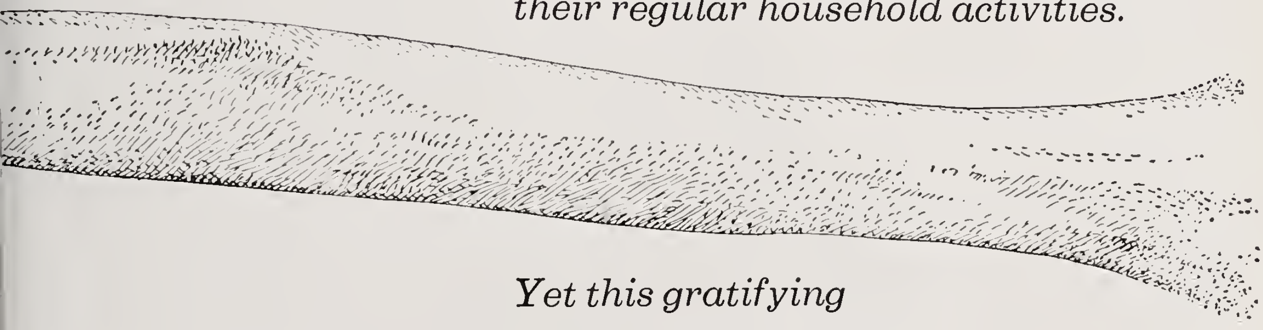

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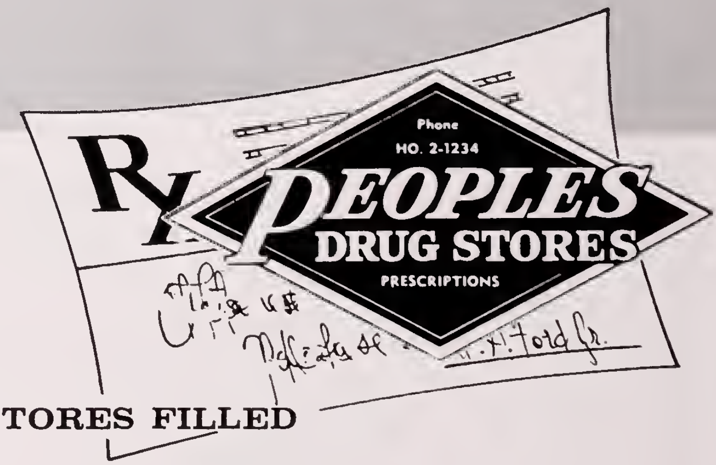
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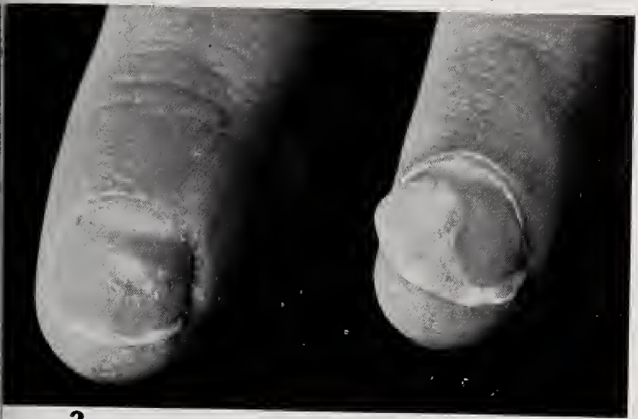

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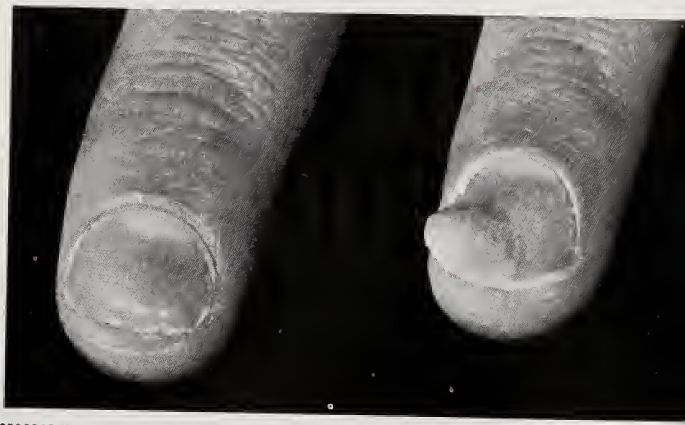

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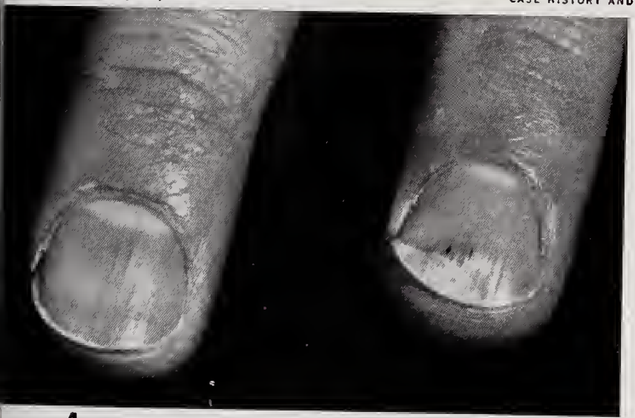

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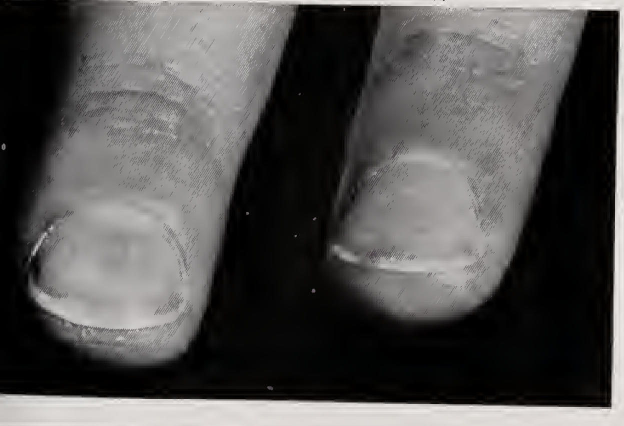

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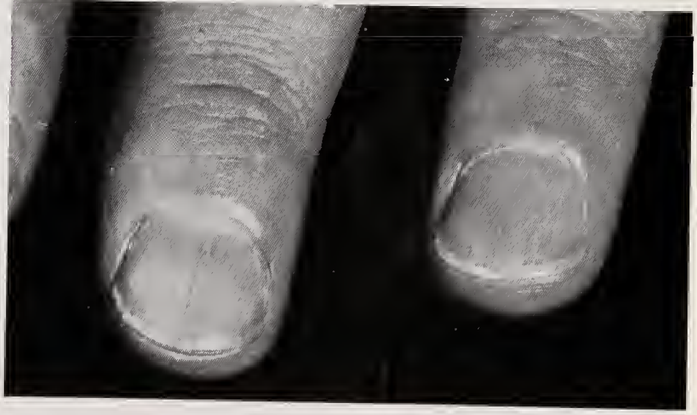

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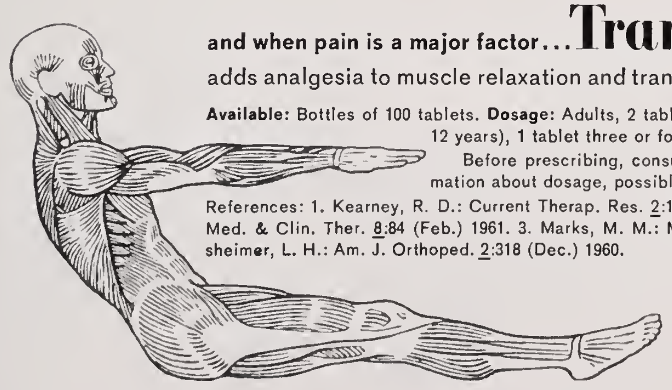

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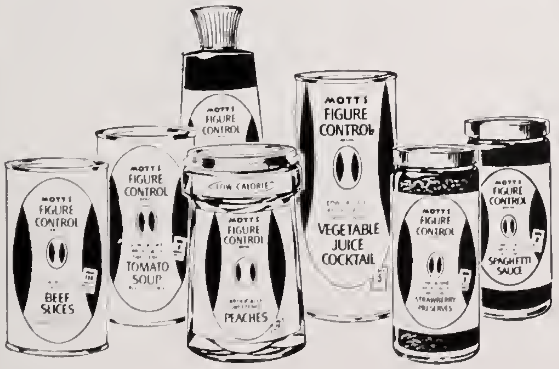

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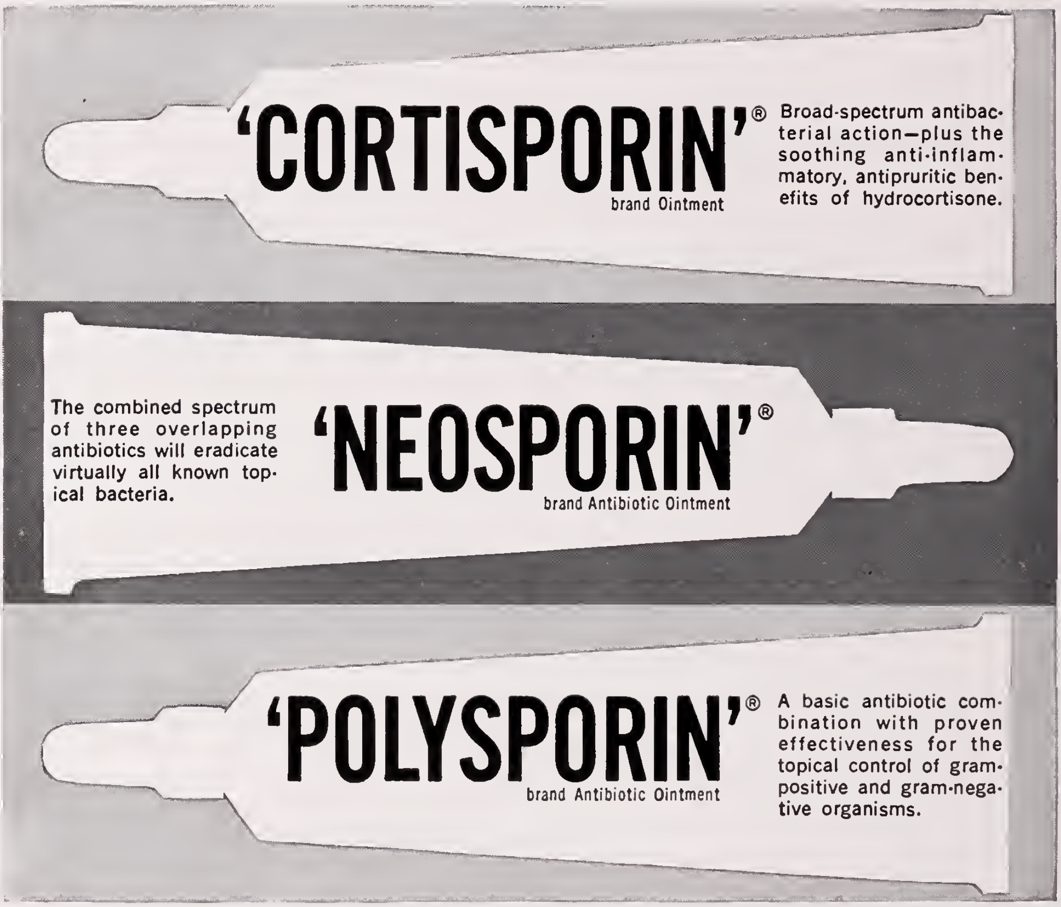

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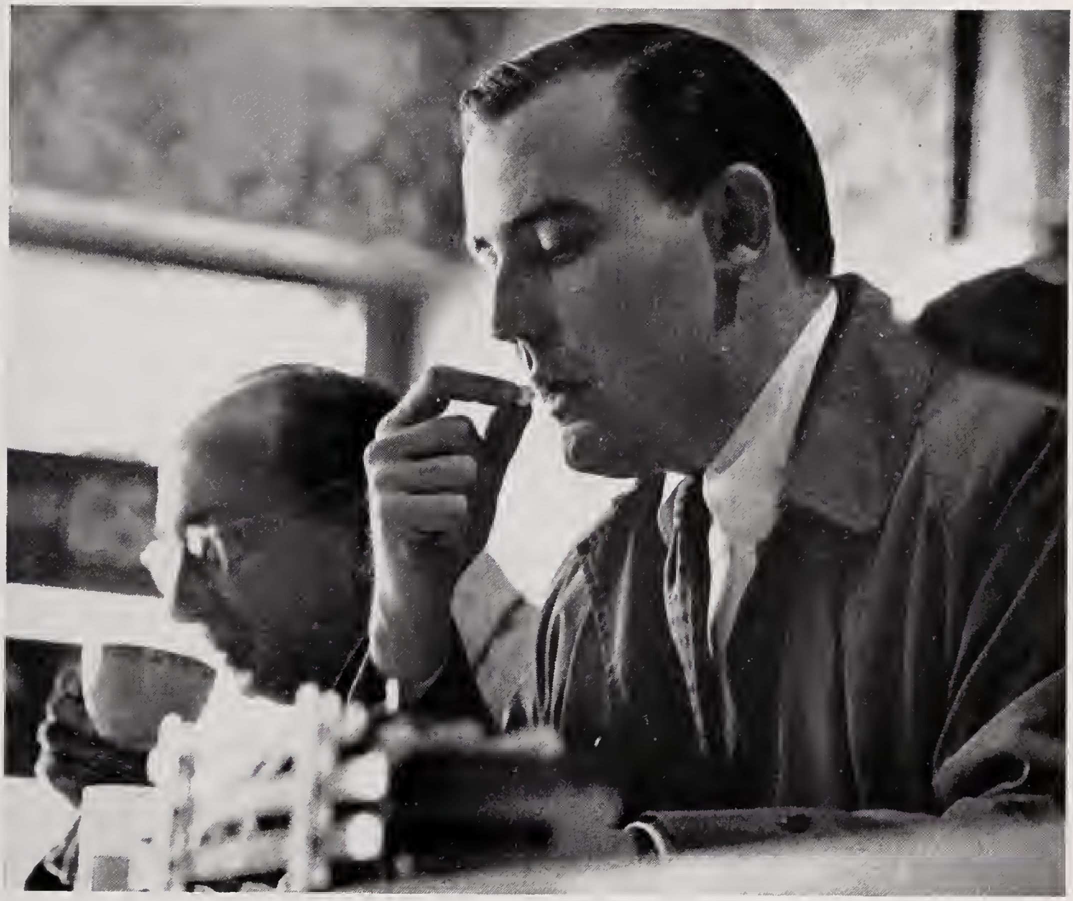

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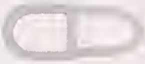

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FOREWORD

This is the second issue of the Medical Annals of the District of Columbia devoted to papers contributed by members of the Department of Medicine at Georgetown University School of Medicine, the first issue having been published in November, 1959. The continuing growth and expansion of the Department of Medicine are illustrated in these papers, in that each of the senior authors has become a full-time member of the Department since the last issue. Not only Georgetown University Hospital is represented by these papers, but also other hospitals in the community that contribute to the important task of teaching medical students and continuing the postgraduate education of physicians.

The relationship of a University Medical Center to the physicians in the community should be a close one, and the fact that these papers stem from several hospitals in the community indicates the harmonious state which should prevail. Since the Medical Annals of the District of Columbia is the published voice of all of the doctors in this community, it is quite fitting that special numbers such as these be published in the Annals regularly because their appearance indicates the coöperative relationship that medical schools and specialized institutions have to the medical community as a whole.

Irving B. Brick, M.D., F.A.C.P.
Professor of Medicine,
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Medical Annals of the District of Columbia

Myocarditis: Infectious and Immunologic Aspects*

VERNON SANDERS, M.D.

Chief Medical Resident, Georgetown University Medical Service, District of Columbia General Hospital, Washington

CUTTING B. FAVOUR, M.D.

Chief, Georgetown University Medical Service, District of Columbia General Hospital; Professor of Preventive Medicine, Georgetown University School of Medicine

Physicians accustomed to the care of acute illness have often taken for granted the stalwart capacity of the heart to carry their patients through a great variety of infectious diseases. This apparent invulnerability of such a vital organ to both simple infections and even to those which cause gross injury elsewhere has caused many to wonder whether evolutionary processes have not endowed the myocardium with a unique immune mechanism independent of the elegant phagocytic and antibody-producing lymphatic system. Although interesting, this is not an explanation which fits modern concepts of immunology. Others have suggested that the heart's protected location remote from contaminated epithelial surfaces may account for its relative freedom from invasion even in lethal infections. This suggestion likewise is suspect. Whatever the reason, invasion of the blood stream by pyogenic bacteria, tubercle bacilli, viruses, and a variety of fungal and protozoan organisms usually does not cause serious cardiac lesions. As a result we tend to overlook both mild as well as significant cardiac complications of infections, particularly those which cause primary myocardial disease.

We shall review briefly some of the important types of myocarditis probably related to infection which may be encountered by the general physician, with special emphasis on indolent primary myocardial disorders which we believe are seen often enough to be syndromes with which all physicians should be familiar. These forms of myocarditis are not new medical problems. In the past they have been called Fiedler's myocarditis,[1] idiopathic myocardial hypertrophy,[2] noncoronary myocardiopathy,[3] postinfectious myocardial disease,[4] and myocarditis associated with pregnancy.[5, 6] A number of case reports have implicated a viral agent,[7-12] while other studies have explored the possibility of autoimmune mechanisms.[13-21] An illustrative recent case from the series of 16 we have seen within the past six months is given in the review of myocarditis which follows. A clinical and pathologic analysis of these disorders will be presented in subsequent reports.

General Features of Primary Myocarditis

There are several different mechanisms by which infections and immunologic disorders can involve the heart. The manifestations of these different effects, however, are often indistinguishable one from another. Although infections with systemic symptoms cause some degree of cardiac limitation most of these changes are below the level of detection by routine clinical

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* This study was supported by Grants E-3775 and 2E-182 from the Public Health Service, United States Department of Health, Education, and Welfare, and by a grant from the Washington Heart Association.

means. Significant primary myocardial disease, however, usually can be recognized at the bedside when the overall clinical pattern and laboratory findings are taken into account. Recurrent congestive failure, particularly that accompanied by paroxysmal nocturnal dyspnea, cardiomegaly disproportional to the degree of cardiac embarrassment, transient atrial and ventricular arrhythmias, and the presence of a ventricular diastolic gallop, especially occurring in the younger age groups, are tell-tale features of primary myocardial disease. An accessory history of prior infection both in family contacts as well as in the patients themselves may be helpful additional findings. An infiltrative, granulomatous or collagen-vascular myocarditis may produce similar cardiac findings but usually is readily recognized by the prominence of other clinical findings.

In table 1 are listed some of the diseases which cause primary infectious myocarditis. For the purposes of this presentation only selected examples are given of the large number of infectious and parasitic diseases which are known to involve the heart. These examples are taken from our own material to illustrate the varied pathology of myocarditis. For more detailed compilations the reader is referred to reviews by Gore and Saphir[8] and by Mattingly.[4]

TABLE 1

Some Diseases Causing Primary Infectious Myocarditis

Disease	Mechanism	Site of Action	Lesion
Diphtheria	Exotoxin	Muscle-cell conducting system	Cell death; secondary inflammatory cell response
Streptococcus	Soluble products	Perivascular foci	Focal mononuclear accumulations; "cloudy swelling"
Staphylococcus	Bacterial localization	Myocardium	Multiple metastatic abscesses; "cloudy swelling"
Meningococci	Bacterial localization—Swartzman reaction	Perivascular	Focal inflammatory lesions with hemorrhage
Typhoid	Endotoxin	Myocardium	Focal inflammatory lesions
Rickettsia	Direct invasion	Vasculitis	Vasculitis; diffuse interstitial myocarditis
Viruses:			
(a)	Direct invasion, acute course	Muscle-cell injury	Muscle-cell degeneration; focal and diffuse inflammation
(b)	Direct invasion	Muscle-cell injury; perivascular lesions	Minimal mm. cell injury; mm. hypertrophy; focal chronic inflammation, healing with fibrosis
Fungus[22]	Direct invasion	Perivascular	Localized abscesses
Parasites			
(a) Trichinosis	Larva in capillaries; secondary allergic vasculitis	Arteriolar	Focal encystment, acute vasculitis
(b) Schistosomiasis[23]	Male and female worms in tissue	Plugged capillary vessels	Acute inflammation with encystment of worms

PATHOGENESIS OF MYOCARDITIS

Microörganisms can affect the heart by one or more of a variety of mechanisms. Pyogenic bacteria may invade the myocardium directly where they cause multiple abscesses. This type of lesion is seen in staphylococcal septicemia and may occur in subacute bacterial endocarditis caused by alpha hemolytic streptococci. Pyogenic bacteria also can cause indirect injury via powerful toxins which kill myocardial cells or induce a Swartzman reaction. Rickettsia cause myocarditis characterized by perivascular lesions, and viral agents often cause a more diffuse type of focal process.[24] Whatever the agent, where injury is extensive and the process of long duration, repair by fibrosis takes place. In some instances this healing phase is accompanied by marked myocardial hypertrophy resulting in heart weights reaching the 800 Gm. or more of a cor bovinum. In other instances the degree of fibrosis is so extensive that considerable replacement of myocardial tissue takes place. The silent nature of these extensive changes sometimes is quite remarkable. It is often not until months or even years later when these reactions have reached considerable proportions that patients come to our attention. By this time overlapping clinical patterns have obscured evidence of an initial infection.

Forms of Myocarditis

Diphtheritic myocarditis. Diphtheritic myocarditis is the best example of cardiac involvement due to a bacterial exotoxin. Normally the pathologic changes in diphtheria are at the portal of entry. In the virulent forms of this disease these changes are prominent enough to make apparent their relation to myocarditis, which in fact is a common cause of death in this disease. There are certain individuals, however, in whom a mild unrecognized diphtheritic pharyngitis or nasopharyngitis or even a diphtheritic wound infection is manifest chiefly by cardiac involvement. Local paralysis of pharyngeal muscles or a localized peripheral neuritis at the site of infection[25] appearing after two weeks and the tendency to membrane formation are warning signs that diphtheria may be present. In an unselected series of patients with diphtheria cardiac involvement is common. Half the patients with overt diphtheria may show electrocardiographic abnormalities. These take the form of changes in rate and rhythm, occurring either as tachycardia, ventricular irritability, or varying degrees of heart block. Cardiac involvement also may be manifest as a fall in blood pressure, by a gallop rhythm, pallor, and the usual signs of congestive failure. Since myocardial damage is irreversible once the toxin molecule has combined with the individual cell it is imperative to offer prompt treatment. Antitoxin is used to neutralize any toxin in body fluids, and penicillin or a similar bactericidal agent should be given to control the local infection. Cardiac recovery may be incomplete despite timely treatment, and disability may remain subclinical for many years until compounded by coronary artery disease. At this point decompensation occurs.

Nonrheumatic myocarditis associated with streptococcus infections. A discussion of rheumatic myocarditis associated with beta streptococcal infections is beyond the scope of this presentation. There are other forms of myocarditis, however, in which streptococcal infections can cause myocarditis. One is that which is seen in acute fatal streptococcal disease. These infections may be associated with a focal myocarditis from which no bacteria can be recovered.[26] This syndrome is not associated with valvulitis nor is the focal lesion characteristic of the Aschoff body.

Another example of diffuse myocarditis associated with streptococcal septicemia is that seen in subacute bacterial endocarditis which has been present for long periods prior to the initiation of effective penicillin treatment. In these patients death in congestive failure may occur within the first one or two weeks of an otherwise adequate course of penicillin treatment. At autopsy penicillin-susceptible organisms have been recovered from the healing vegetations on the valves of these patients. The myocardium contains a diffuse focal myocarditis which is unlike rheumatic myocarditis.[27] This form of infectious myocarditis constitutes an important cause of death in subacute bacterial endocarditis due to infections which by other criteria should be controlled with modern antimicrobial therapy.

Meningococcemia and myocarditis. Meningococcemia has been associated with a form of myocarditis which is the result of localization of organisms in the tissues much as they do in the skin lesions of this disease.[24] These lesions are of two types. The first is an acute pyogenic lesion which forms where viable organisms escape from small blood vessels to colonize the local tissues. The second is the superimposed thrombotic hemorrhagic lesion of the Swartzman reaction. These focal interstitial hemorrhagic phenomena are thought to be the result of the secondary systemic distribution of meningococcal endotoxin to capillary sites previously exposed to endotoxin during the early period of sepsis. This form of meningococcal myocarditis has a grave prognosis in the course of meningococcal infections.

Rickettsial myocarditis. During the South Pacific campaign of the last great war considerable experience was gained by American physicians with myocarditis associated with rickettsial infections.[28] The occurrence of an interstitial myocarditis also can occur in each of the various other types of rickettsial infections.[29] It is extensive in severe Rocky Mountain spotted fever and scrub typhus infections. The primary injury is a vasculitis characterized by endothelial proliferation, degeneration, and edema resulting in obstructive phenomena in small arterioles, veins and capillaries.[8, 30]

Viral myocarditis. A number of virus agents have been implicated in myocarditis. Where autopsy or biopsy material has been available for study a wide range of diffuse lesions has been seen. Agents recovered from these patients have been the influenza,[7] poliomyelitis,[12] and Coxsackie viruses.[9, 10, 11] Although not known to be of viral etiology, infectious mononucleosis[31, 32] perhaps should be included in this group. No doubt as work in this field is expanded the list will be lengthened to include many other common viruses which are capable of causing symptomatic disease. By the same token the various clinical patterns of these forms of myocarditis likewise will undergo modification.

It should be emphasized that this category of myocarditis, containing forms probably due to a viral type of infection, is the most common type which is seen by the general physician. This is particularly true of progressive examples of myocarditis, which constitute the bulk of patients seen with infectious myocarditis. One of the most important and most often overlooked diffuse primary myocarditis is the subacute or latent disease.[5] This is so because evidence of primary involvement of other organs aside from the manifestations of congestive failure is minimal or absent. Sometimes a history of a prior respiratory infection is obtained, but this most often is not a helpful finding. There also may be contributing epidemiologic data suggesting a viral etiology. Unfortunately serologic and virologic studies late in the disease may be unsatisfactory even from biopsy material directly from the myocardium. Likewise diagnostic antibody titer rises are unlikely. These are best studied in the early stages of infections. Likewise long-standing inflammatory processes in the myocardium may be the cause of much more functional than anatomic disorder. In fact, in some autopsy material it may be difficult to demonstrate the focal nature of the lesions because of accompanying myocardial hypertrophy. In most cases a satisfactory demonstration of an infectious etiology will come from studies done early in the course of the disease. Despite these limitations in making an etiologic diagnosis these syndromes can be recognized readily at the clinical level.

Our own experience with the myocarditis syndromes has led us to believe that a well taken history, a high index of suspicion, and a thorough physical examination, along with electrocardiographic and X-ray studies, as well as standard clinical laboratory procedures, will permit a provisional diagnosis in most of these patients. Using such criteria 16 patients have been encountered in the past six months on the wards of the Georgetown Division of the D. C. General Hospital. The pattern of findings has been sufficiently characteristic for the house staff to suspect the diagnosis at the time of admission. Biopsy and/or autopsy confirmation

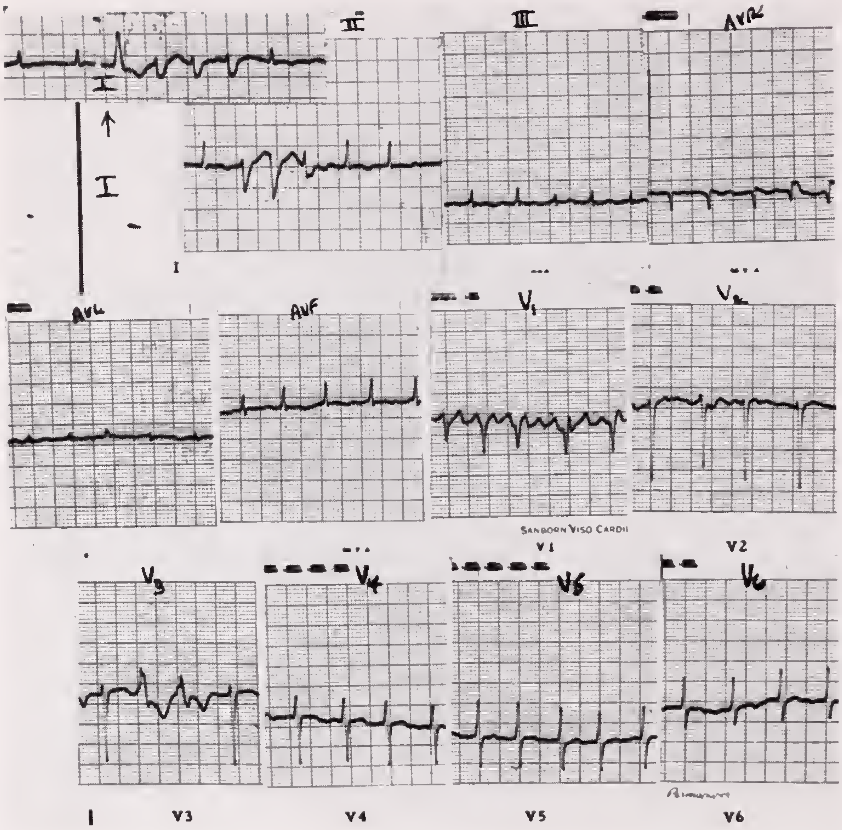


FIG. 1. Electrocardiogram on admission: The basic rhythm is atrial fibrillation with a rapid ventricular response. Note irritability and the short burst of ventricular tachycardia in lead I.

of myocarditis has been carried out in 12 of the 16 patients. One of these patients together with the significant laboratory work is presented for illustration of the syndrome.

ILLUSTRATIVE CASE

F. C. (D. C. General Hospital 5892), a 32-year-old unemployed Negro laborer, was hospitalized June 1, 1961 because of increasing exertional dyspnea, orthopnea, and attacks of paroxysmal nocturnal dyspnea of one month's duration. Symptoms were initiated by a slight "cold" characterized by a mild, afebrile, nonproductive cough. There was no history of angina, ankle edema, syncope, or cyanosis. The patient had not been told that he had hypertension or cardiac enlargement at the time of previous visits to his doctor. There was no past or family history of rheumatic fever, scarlet fever, diphtheria, or of cardiac murmurs in early life.

Three years before, in 1958, the patient was hospitalized with right-sided pleurisy. A diagnosis of tuberculosis was made on the basis of caseating granulomata seen in a pleural biopsy. No acid-fast bacilli were seen in the biopsy nor were they recovered from the sputum. While in the hospital he was treated with isonicotinic acid hydrazide (INH) and streptomycin. Following discharge he was lost from observation until 1960, at which time he was readmitted to the hospital with a bilateral pleural effusion. Streptomycin and INH therapy was reinstituted and the patient transferred to Glenn Dale Hospital, where he remained until March 1961, when he signed out against medical advice.

There was a remote past history of gonorrhea on four occasions, each treated with penicillin without infectious or drug complications. There also was a history of heavy and chronic alcoholism. A retrospective review of systemic or local infections which might have been a precursor to his subsequent cardiac disease was unrevealing. The occasional "cold" reported by men in this age group was the only type of infection noted.

The patient was a medium-framed, well-nourished, orthopneic young man who appeared anxious and acutely ill. He was able to give a satisfactory history. There was no subjective angina or chest pain. The skin was clear. Neither icterus nor cyanosis was present. Many teeth were missing and others were carious. There was no significant finding of recent or past infection of the pharynx, sinuses, or ears. Neither was there cervical or peripheral adenopathy. A jugular venous pulse in the distended neck veins showed an exaggerated V wave. The thyroid was not palpable. The finding of moist râles heard in the lower half of the chest was the only abnormality of the chest noted. The blood pressure was 110/70, the heart rate at rest 150 with an irregular rhythm, the temperature 98.6°F, and the respiratory rate 20 per minute.

Inspection and palpation of the heart revealed a diffuse, hypodynamic precordium. The left cardiac border was percussed in anterior axillary line. The first heart sound was of normal intensity; the second sound was split normally with respiration. A grade 2/6 pansystolic murmur was heard along the left sternal border which increased in intensity with inspiration. A loud ventricular diastolic gallop, followed by a short rumble, was heard at the apex (see phonocardiogram, figure 1).

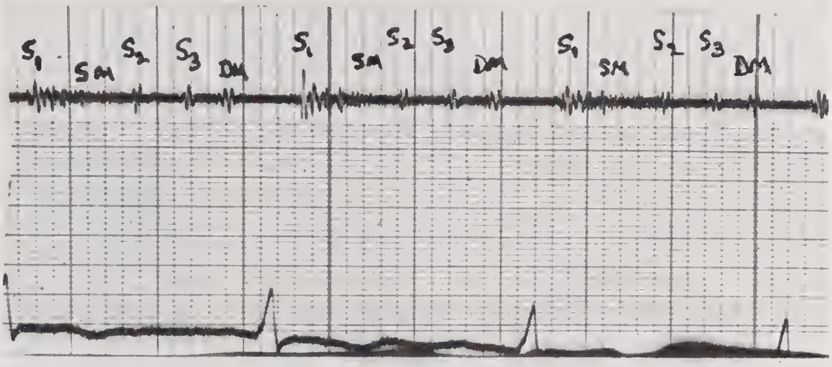
The liver was palpable 3 cm. below the right costal margin. The spleen was not felt or percussed. There were no spider angiomata or abnormal cutaneous venous patterns. Except for a trace of pitting ankle edema the remainder of the examination was normal.

At the time of admission the following laboratory data were obtained: hematocrit 55; white blood cell count 8,000; normal differential count; urinalysis normal; blood urea nitrogen 17 mg. per cent; fasting blood sugar 66 mg. per cent; total serum protein 6.2 Gm. per cent; albumin 3.3 Gm. per cent; globulin 2.9 Gm. per cent; serum macroglobulin negative; cryoglobulin negative; fasting serum cholesterol 147 mgm. per cent; bromsulfalein test 47 per cent retention in 45 minutes; serum SGOT 10 units; serum electrophoresis—albumin 39 per cent, alpha$_1$ 5 per cent, alpha$_2$ 8 per cent, beta 15 per cent, gamma 35 per cent; hemoglobin electrophoresis AA; febrile, heterophil, leptospiral and cold agglutinins, all negative; urine culture negative; three sputum concentrations and smears for acid-fast bacilli, negative; viral studies for Coxsackie group B virus in throat and rectal swabs and in the myocardial biopsy, negative.* The only positive laboratory findings were a latex globulin reaction positive on two occasions and an antistreptolysin titer of 625 Todd units on one occasion.

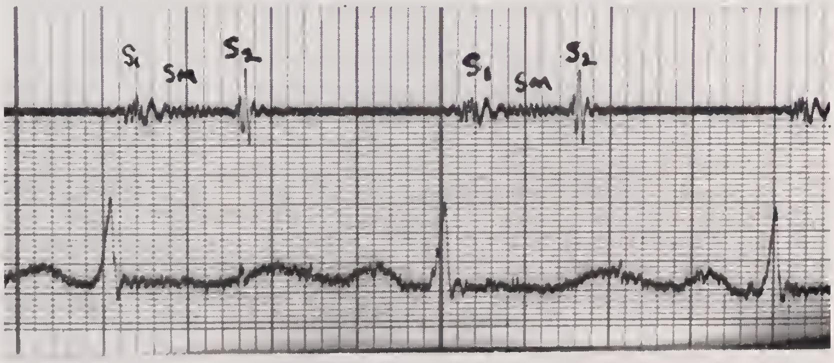
The admission electrocardiogram showed a rapid atrial fibrillation at 150 per minute interspersed with short runs of ventricular tachycardia (figure 2). There also were generalized nonspecific T wave changes. Tracings taken two weeks later after a significant diuresis showed a reversion to a normal sinus rhythm at a rate of 70 beats per minute. ST-segment changes were compatible with digitalis effect.

Films of the heart, posterior-anterior and oblique views with a barium swallow, showed generalized cardiomegaly without significant atrial enlargement. Congestion in the lung bases cleared following therapy (figure 3). At fluoroscopy no valvular calcifications were seen.

On a program of bed rest, salt restriction, diuretics, and digitalis the patient lost 64 pounds in a period of three weeks. After improvement a closed myocardial biopsy was carried out in the operating room with the use of a specially designed needle with a 1.1 mm. bore. A leathery, thickened pericardium was encountered, but no fluid was present in the pericardial sac. Following this procedure the patient's cardiac rhythm reverted to a normal



APEX - ADMISSION



APEX - AFTER 64 # DIURESIS

FIG. 2. Phonocardiogram: Note the disappearance of the ventricular diastolic gallop and diastolic rumble following the diuresis.

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* We are indebted to Dr. John Nemez of the Georgetown Department of Microbiology for carrying out these viral studies.

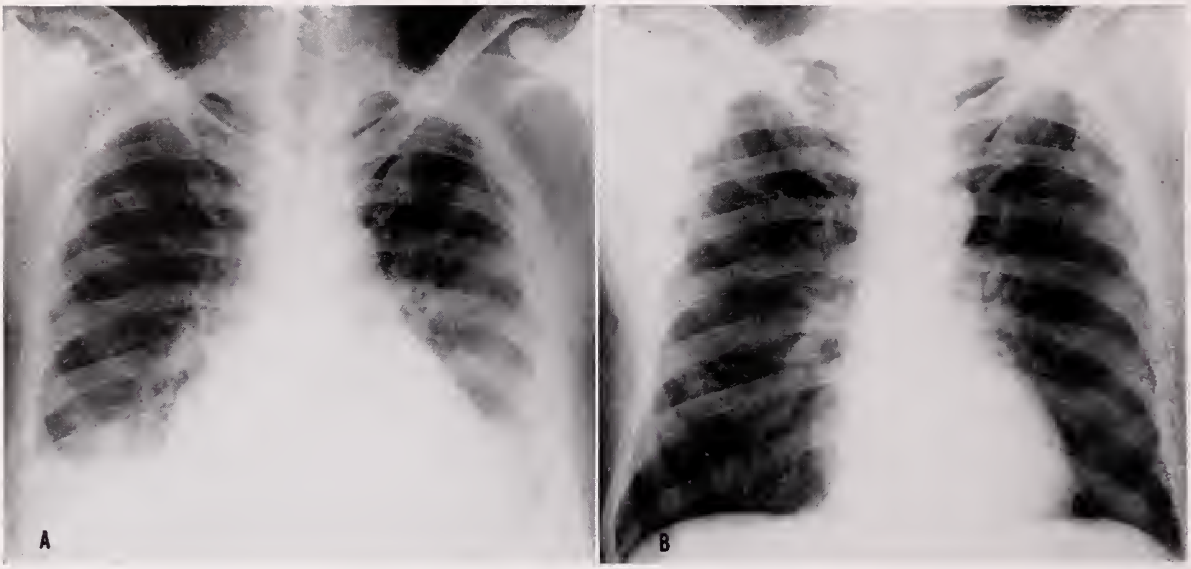

Fig. 3. A. Generalized cardiac enlargement and bilateral pleural effusion on admission. B. Moderate cardiomegaly persisted following recovery, with subsequent clearing.

sinus mechanism. The patient was discharged to a home-bed-rest program after three weeks in the hospital. Orthopnea and paroxysmal nocturnal dyspnea were gone, but the physical capacity remained limited.

The core of material was fixed in formalin. Sections were stained with hematoxylin and eosin, with Movat and with Masson's trichrome stains. The amount of tissue was adequate to reveal the limits of several focal collections of histiocytes accompanying fibrous connective tissue replacement of myocardium. In these areas the myofibrils were separated into small nests by extensive bands of connective tissue. Most of the myofibril nuclei were of average size. Others, however, were hyperchromic and were seen in association with indistinct cross striations. Taken together these findings are compatible with resolving myocarditis, healing by fibrous replacement* (figure 4).

In summary, a 32-year-old laborer was hospitalized because of orthopnea, paroxysmal nocturnal dyspnea, and ankle edema. A history of granulomatous pleuritis three years before, treated as tuberculosis, and of bilateral hydrothorax and auricular fibrillation one year before was obtained. Except for chronic alcoholism the history was otherwise noncontributory.

One year later, at the time of his third hospitalization,

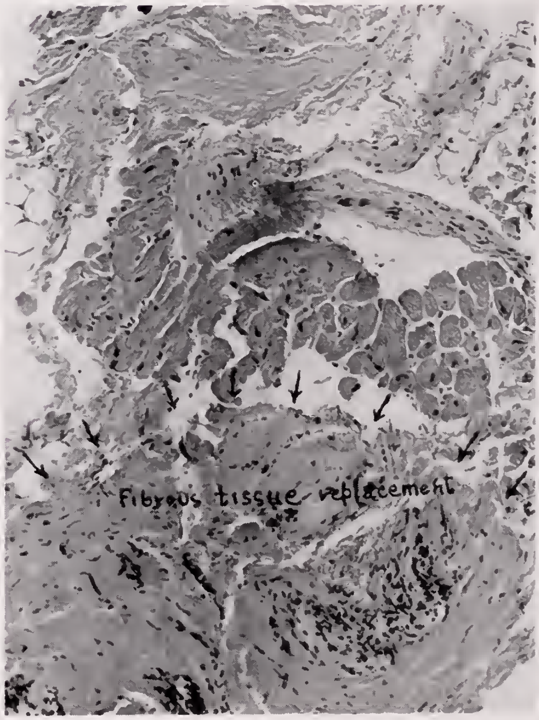

Fig. 4. Myocardial biopsy: In central portion of field there is a well-developed focal replacement of myocardial fibers by fibrous tissue with little cellularity. This change is seen in the chronic phase of this disease.

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* We are grateful to Dr. William Manion of the Armed Forces Institute of Pathology who prepared and interpreted for us the sections of the myocardial biopsy on this patient.

cardiomegaly, congestive failure, atrial fibrillation, and a ventricular diastolic gallop were the major findings. Hepatomegaly and laboratory findings consistent with fatty metamorphosis of the liver were unrelated findings. No evidence of rheumatic valvular disease was present.

Symptomatic improvement followed a 65-pound diuresis brought about by standard cardiac therapy. A closed myocardial biopsy revealed a healing diffuse focal myocarditis. Extensive infectious disease studies were all negative. A normal rhythm was established in the hospital before the patient was discharged to convalesce further at home.

Hypersensitivity and Myocarditis

There is little fact and much speculation on the manner in which hypersensitivity phenomena can produce inflammation of the myocardium. Experimental myocarditis has been produced in animals by one of several techniques.

Foreign protein. Rich and Gregory[33] were the first to show clearly that large doses of a foreign protein given to a rabbit would produce carditis and valvulitis not unlike rheumatic fever. These reactions belong in the category of periarteritis nodosa known to occur in animals and man receiving foreign proteins such as tetanus antitoxin or certain drugs, notably the sulfonamides and occasionally penicillin. Periarteritis nodosa in patients may involve the heart to a prominent degree but usually does not present as isolated myocarditis. Other body systems, and the kidneys in particular, usually are affected. The diagnosis of the systemic disease can be confirmed by the clinical picture and by a muscle and/or a renal biopsy. The finding of localized vasculitis involving small arteries along with the clinical picture makes the diagnosis. Percutaneous or an open myocardial biopsy may be necessary to document direct cardiac involvement.

In periarteritis nodosa tissue damage is thought to be secondary to the effect of circulating soluble antigen-antibody complexes.[34] Vascular lesions coincide with the time when a fall in titer of circulating antigen is abruptly further depressed by the development of specific circulating antibodies to the offending antigen. As this antibody response appears antigen-antibody complexes first increase and then disappear from the circulation as the antibody titer continues to rise. Various manipulations have been used to block the appearance of lesions. Agents which will diminish specific antibody response by suppression of the reticuloendothelial system, such as glucocorticoid therapy or radiomimetic agents, have been used for this purpose. The injection of the antigen in broken doses also can be used to control the experimental disease. On the other hand, regulating the circulating antigen in such a way that the antibody response does not overshoot that necessary to keep complexes in the circulation will produce an unremitting occurrence of lesions. This form of the experimental disease simulates that seen occasionally in the clinical disease in man. Therapy of human chronic periarteritis nodosa in which extensive cardiac and renal involvement is present is unsatisfactory even with pharmacologic doses of a variety of anti-inflammatory agents.

Experimental autoimmune myocarditis. Efforts have been made by many workers to induce autoimmune heart disease with the use of an organ extract as antigen with the thought that resulting antibody will injure the heart directly. Anti-heart antibodies have indeed been elicited in experimental animals immunized with beef heart media[15] and with saline extracts of homologous heart tissue incorporated in Freund's adjuvant as well.[18, 19] These animals, however, do not develop myocarditis. The fact that the body does not normally produce antibodies to its own tissues has led Burnet[35] to conclude that this recognition of "self" as not "foreign" and foreign antigens as "nonself" is the normal immune state of the healthy host. According to this concept, when "forbidden clones" of antibody-producing cells appear which recognize one or more "self" antigens as foreign, autoimmune disease may occur. The adjuvant-plus-tissue technique which produces thyroiditis, nephrosis, encephalitis, and many other syndromes is thought to induce such clones. In disseminated lupus and allied disorders it has been thought that "forbidden clones" arise *de novo* without apparent cause. These clones then supply antibody which reacts with tissues. Such a hypothesis has been suggested to account for localization of gamma globulin in the lesions of lupus as seen by the fluorescent-tagging technique. None of these postulations, however, takes into account the role of delayed-type allergy, which is an important if not the major factor in autoimmune disease mechanisms.

The impact of these concepts, nevertheless, has promoted a search for experimentally-induced responses in which the immune mechanisms of the host can be tricked into turning their destructive power upon a single organ antigen. To date two diseases other than blood dyscrasias have been produced which satisfy the full criteria of autoimmune disease. These are experimental encephalomyelitis[36, 37] and autoimmune nephrosis.[38] Other organ disorders also have been induced in experimental animals with the use of tissue extracts and Freund's adjuvant, but so far these experimental diseases have not been transferred by cells. Many of these experimental diseases are characterized by circulating antibodies to the specific organ tissue in question.[39] Furthermore, localization of host gamma globulins on the sites of tissue damage has been demonstrated, notably in experimental thyroiditis.[40] Likewise, host-type gamma globulin localized in the rheumatic carditis of rheumatic fever has been demonstrated with the fluorescent antigamma globulin method in auricular appendages removed in the time of commissurotomy.[17] That circulating antibodies have anything to do with the production of these diseases, however, has not been demonstrated. In fact, current thinking holds that the antibody responses to these manipulations are a result rather than the cause of autoimmune diseases.[41, 42]

Anti-heart antibodies in human disease. A similar secondary rather than primary role for anti-heart antibodies has been proposed for those antibodies found in patients following myocardial infarction,[14, 43] in syphilis,[13] and in the postcommissurotomy syndrome.[17]

The role of these anti-heart antibodies, however, is not yet settled. Tissue cultures of heart cells are injured by anti-heart antibodies developed by immunizing a normal animal with heart antigen.[20] Furthermore, it has been possible to passively transfer the homotransplantation rejection phenomenon with antisera directed against marrow cells used as the transferred tissue.[44] In this latter study it may be that the dispersion of the marrow cells in the recipient host permits antisera to injure cells directly in a way which is not possible where transfers have been done with antibodies directed against solid tissues. These recent findings are in contrast to older studies which have deëmphasized the role of iso-antibodies in the tissue injury homortansplantation immunity.

The fact that experimental encephalomyelitis cannot be transferred with serum containing anti-brain antibodies but can be transferred with lymphoid cells known to be the active mediators of delayed allergy of the tuberculin type[39] has suggested that autoimmune disease, like transplantation immunity[45] which can be transferred with cells, is a delayed-type allergic mechanism. Since it is known that most infectious diseases cause specific delayed-type allergy in man, it is possible that these agents act like adjuvants in inducing autoimmune reactions in diffuse myocardial disease.[39] Simple injury alone which may release enough tissue antigens to cause an antibody response apparently is not enough to start a destructive autoimmune process in motion. It remains to be seen whether infections involving the heart, particularly the indolent group in which our patient falls, represent a similar mechanism.

DISCUSSION

It is commonplace for the clinician who confers with the pathologist regarding postmortem examination on his patients to conclude that there are only a limited number of morbid anatomic patterns by which a great variety of disorders of function are expressed.

On the other hand, the same clinician may be chagrined to find that two different patients dying of apparently similar forms of congestive heart failure may have widely different etiologies and morphologic changes in the myocardium. This is particularly true when the postmortem examination on his patient who he thought had coronary or hypertensive heart disease showed diffuse myocarditis.

In this report a plea is made to expect the unusual in heart disease more often than we do. It is our belief that a wide spectrum of primary myocardial diseases are recognizable at the bedside. Most of these syndromes are confused with coronary artery disease, hypertensive cardiovascular disease, or more rarely rheumatic heart disease. This need not be so. There often are findings which should raise one's suspicion that what otherwise appears to be ordinary congestive heart failure is in fact due to an extraordinary diffuse disorder of the myocardium.

In this presentation is given a representative case history together with the salient accessory findings for one of the more common forms of diffuse myocardial disease. Although efforts to find a viral agent in the percutaneous myocardial biopsy from this patient were unrewarding, this procedure did confirm the anatomic diagnosis which seemed likely on purely clinical grounds. The bedside surmise was based on a constellation of findings we have come to regard as valuable. These were stated in the introduction to this report and are repeated here for emphasis. The patient's age and absence of chest pain made suspect the diagnosis of coronary artery disease. There was no history of diastolic hypertension, although this may be present when the patient presents himself in congestive heart failure. There was no organic murmur to implicate either rheumatic or congenital heart disease. In addition, the patient presented in profound congestive heart failure, with marked cardiomegaly, a loud ventricular diastolic gallop, and a history of progressive orthopnea with paroxysmal nocturnal dyspnea. Disturbances in rhythm included rapid atrial fibrillation with short bursts of ventricular tachycardia. Any of the above features as an isolated finding is not specific, but together they indicated that the myocardium was involved by a diffuse process. This clinical judgment was substantiated by tissue obtained with the closed myocardial biopsy technique.

The nature of the diffuse disease in this patient suggests that it is postinfectious in origin. It is likely, as Mattingly[4] has suggested, that infectious myocarditis makes up a large part of the broad spectrum of primary myocardial diseases which may present in much the same manner as did this patient. Infiltrative disorders such as amyloid, granulomatous lesions such as sarcoid, and the collagen vascular diseases may simulate the clinical syndrome of diffuse myocardial disease illustrated by this case report. They are less common, however. Furthermore, other clinical findings usually serve to establish their nature without depending on cardiac manifestations alone for a diagnosis.

The course of primary myocardial disease thought to be of infectious origin can be quite variable. In our series now under study we have examples of the initial myocarditis occurring within days to weeks after an intercurrent respiratory infection. In some instances such as rickettsia infection this may be the cause of death during the febrile period. When congestive failure develops in this group the myocardial biopsy shows acute diffuse inflammation. Some die at this stage either with intractable congestive failure or because of a superimposed arrhythmia. By several weeks muscle fiber hypertrophy will occur. This is not due to valvular disease but is in some way related to the diffuse muscular disease process. Again, sudden death, due to an arrhythmia, can occur at this time. Where the course is prolonged a degree of scarring appears. In some instances the fibrotic replacement is so marked that the patient is reduced to a bed-chair existence. In other instances the focal inflammatory changes tend to be obscured by an extraordinary myocardial hypertrophy. These are the "hypertensive hearts without hypertension" and the idiopathic myocardial hypertrophies which long have puzzled clinicians. Both groups may develop insidious congestive failure years after the onset of their initial inflammatory heart disease.

A biopsy or an autopsy late in the evolution of this syndrome will show either marked scarring or a simple myocardial hypertrophy with scattered interstitial fibrosis. A careful search of the sections for the focal scars is sometimes necessary to establishing this cause. Except in patients who have been under observation for long periods these latter patterns are difficult to interpret with certainty. In all forms of the disease prolonged bed rest may be the most effective form of treatment once the acute congestive failure is under control. This facet of the syndrome is being assessed further in studies now in progress.

SUMMARY

Various mechanisms by which infectious disease can cause significant heart disease have been reviewed.

The most important form of diffuse myocardial disease seen in this area is that which has been called postinfectious myocarditis. Myocardial biopsy will corroborate a diagnosis which can be suspected from the history and clinical findings. In some instances the isolation of an etiologic viral agent has been accomplished.

An illustrative case report has been presented. Important clinical features of this disease are recurrent bouts of congestive failure, various arrhythmias and conduction defects, unusual cardiomegaly, and the presence of a ventricular diastolic gallop. In addition to the usual measures, prolonged bed rest is an important aspect of treatment.

The autoimmune aspects of myocarditis have been discussed.

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(*Continued on page 378*)

Methods in the Diagnosis of Gastric Cancer

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A NOTORIOUSLY SILENT KILLER, gastric carcinoma, continues to evade its pursuers. Though improvement in surgical techniques has made subtotal gastrectomy a reasonably benign procedure (with an operative mortality of 3 to 4 per cent) and even total gastric resection a none too formidable operation (operative mortality in the range of 7 per cent), the five-year survival rate in gastric cancer has not been altered much in the past 20 years. We have, therefore, in the skill of the surgeon, a safe and effective tool for the eradication of a disease that accounts for almost one quarter of all the cancer deaths in males. We are still faced with the problem of bringing the knife to bear at the most propitious moment.

The primary methods available for the detection of gastric cancer are (1) nonspecific screening (gastric acidity evaluation), (2) radiologic methods, (3) gastroscopy, and (4) cytology.

1. Gastric acid assessment. The proven relationship between anacidity and/or hypoacidity and gastric cancer[1-6] suggests the use of a maximal stimulus gastric acidity test as a screening technique. It has the advantages of ease of performance, requires no special equipment, and may be performed on an outpatient basis. When achlorhydria or hypochlorhydria is demonstrated, there is increased reason for further study with more elaborate tests. However, up to 50 per cent of patients in some series will have adequate free-fasting acid and proven carcinoma so that a negative test (normal acidity) is of little diagnostic significance.

2. Radiology has the longest history of effective employment, but the information yielded is gross, and minor mucosal changes, i.e., early or precancerous changes, cannot be visualized by a barium shadow. This method has the advantage of minimal patient discomfort; but in our present atom-conscious world the fear of X-rays is such that it is losing much of its popular acceptance. Further, the high cost of screening by radiologic means limits its applicability. A more recent development, the image amplifier cinefluorograph, which may aid in the recognition and differential diagnosis of early roentgen signs of neoplasm involving the esophagogastric junction, should be mentioned.

3. Gastroscopy. The gastroscope provides a splendid view of the gastric mucosa in technicolor. Small lesions, such as shallow ulcers, or small precancerous polyps which may not be visualized by radiologic means may be discovered. However, it is a technique which will have poor patient acceptance, and it requires much specialized training and expensive equipment. Further, it provides but a gross view and cannot provide the information which histologic examination can make available. By utilizing the affinity of neoplastic tissue for porphyrins,[7, 8, 9] tetracycline,[10, 11] and the fluorescence of the substances, Lipson et al[9] have demonstrated that the accuracy of endoscopic evaluation may be considerably increased. Modification of these techniques to the gastroscope (which is being undertaken by the author)

should provide enhanced diagnostic value to gastroscopy.

4. Cytologic techniques. The successful application of cytodiagnostic procedures by Marini[12] and others at the turn of the century led to optimistic speculation, but the tools were employed by many less able and less meticulous workers and rapidly fell into disrepute and hence disuse. With the advent of polychromatic cytology, introduced and popularized by Papanicolaou,[13] interest in gastric cytology has been revived. The excellent studies of Cooper,[14] Graham,[15] Rubin[16] and others have clearly demonstrated the value of cytology in the diagnosis of gastric neoplasms. A more recent modification of cytologic techniques, dependent on the affinity of neoplastic cells for tetracycline and fluorescence imparted by the tetracyclines,[10, 11] may provide an even more simple screening method. Demethylchlortetracycline (Declomycin) is given, 150 mg. t.i.d. for 5 days, discontinued for 24 hours and then, following an overnight fast, the stomach is lavaged vigorously with saline, contents removed, and pH adjusted to 6 by the addition of 5 per cent $NaHCO_3$. The material is then centrifuged and the sediment smeared on both filter paper and slides. The filter paper sample is examined under black light and the slides fixed for cystologic staining. A bright yellow fluorescence constitutes a positive test. To increase the yield of tissue, either balloon or brush abrasion, described below, can be used.

Of the sleuthing techniques available, I have chosen cytologic methods as the most promising for application in large-scale cancer-screening for the following reasons:

1. The basic techniques are simple and may be mastered by the family physician and/or his technician.

2. Repeat and follow-up studies may be done with a minimum of discomfort to the patient.

3. Prepared slides may be sent to a central clearing house for diagnosis.

4. When properly done, information regarding premalignant or early malignant lesions, which would probably escape the most astute radiologist, may be gained.

5. The equipment required is inexpensive and the overall cost of the procedure low.

Certain general points must be emphasized, since the technique is no better than the care with which it is employed:

1. Adequate samplings must be derived by trained workers.

2. Slides must be prepared with utmost care.

3. Slides must be read by a pathologist with specific interest in, as well as training in, cytologic examination.

METHODS

It is important that the patient be properly prepared. Patients should receive nothing by mouth after midnight on the day prior to the examination. Patients known to be obstructed (i.e., partial obstruction) should be restricted to fluids for 24 to 48 hours prior to testing and should be fasted for at least 9 hours prior to the study.

1. Gastric washing. a. Simple lavage: Stomach contents are aspirated through a Levin tube, then stomach is washed with 100 ml. of an isotonic saline solution which is discarded. Fifty ml. of Ringer's solution is introduced and withdrawn repeatedly with a 50 ml. syringe as the patient is moved from side to side. The fluid is collected after 10 to 15 minutes of washing and centrifuged at 5,000 r.p.m. for 5 to 10 minutes. The supernatant fluid is discarded and the sediment smeared on standard microscope slides and stained by the Papanicoloau method. This technique is the simplest, but it requires extreme care. It is employed routinely by Graham,[15] Imbriglia,[17] Zamcheck,[18] and others. For specimen, see figure 1.

b. Lavage with mucolytic agents: Rosenthal and Traut[19] employ papain (see table 1 for formula of solution) for releasing cells from the mucous barrier. The cells obtained by this method are variously excellent or badly digested, as papain is a crude mixture of enzymes which

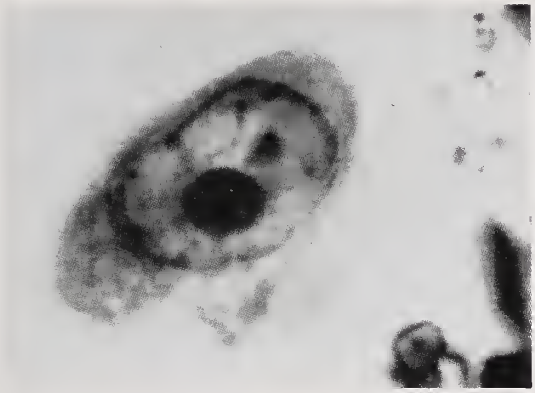

FIG. 1. Large, clearly malignant gastric mucosal cell obtained by simple gastric lavage; diagnosis—adenocarcinoma (autopsy).

has unpredictable powers of digestion. In this method the stomach is prepared as above and 500 ml. of a solution of papain (see table 1 for formulation) is instilled and left in the stomach for 10 minutes while the patient is positioned to maintain the solution and assure maximum contact. The wash solution is then withdrawn. Rubin[20] has used a solution of crystallized chymotrypsin (see table 1 for formulation) in a similar manner with promising results.

TABLE 1

Formulation for Mucolytic Solutions

1. Papain		
a. Buffer solution:		
Dibasic sodium acid phosphate	350	
1 Normal HCl	400	pH 7.3
Distilled water	19,000	
b. Papain—3 level teaspoonfuls in 500 ml. of (a)		
c. Cystein, ½ teaspoonful added to (b) immediately prior to use.		
2. Chymotrypsin		
a. Buffer:		
Sodium acetate	13.6 Gm.	
Glacial acetic acid	0.6 ml.,	pH 526
Distilled water	1,000.0 ml.	
b. Chymotrypsin, 7.0 mg. in 500 ml. of (a) immediately prior to use.		

The cellular material collected by the above techniques is centrifuged at 5,000 r.p.m., and the sediment smeared, using slides coated with albumin and stained by the Papanicolaou method.

2. Abrasive balloon. A modified Miller-Abbott double lumen tube is used. The balloon, either a standard, uncut Miller-Abbott balloon or a condom, is located over the proximal openings. The distal end of the balloon is tied by circling it with no. 00 braided silk. A suture is then tied at a point 8 cm. proximal around the balloon, with the balloon having its normal conformity between these sutures. A coarse silk hair net is then placed over the balloon and affixed with no. 000 braided silk. The proximal ends of the balloon-hair net are wrapped with no. 00 braided silk to form a smooth tubular end, and the excess rubber and hair net ends are cut off. The standard perforated metal tip is replaced by a solid tip, which is firmly affixed to the distal end of the tube, and a finger (small) is cut from a new size no. 6 surgical glove, filled with 3 ml. of mercury, and tied onto the distal tip of the tube with no. 00 braided silk.

With the patient in a sitting position the mercury tip of the tube assembly is placed behind the epiglottis. With repeated deglutition the tube is carried into the stomach. The aspiration of gastric juices indicates that the balloon has entered the stomach. With the balloon deflated the stomach is washed, via the distal lumen, with saline until the aspirate is clear. The balloon is then inflated until the patient feels epigastric distention. Not more than 450 ml. of air should be introduced. The tube is pulled until the inflated balloon abuts against the cardio-esophageal junction. Peristalsis carries the balloon toward the gastric antrum, and it is then retracted to its initial position at the cardio-esophageal junction. This procedure is repeated several times. In order to expedite antral abrasion the patient is placed in the right lateral decubitus position and the balloon deflated. The balloon is allowed to slip into the antrum and reinflated, and abrasion of the antrum is performed several times. The patient is returned to the sitting position and the stomach washed repeatedly with 150 ml. of Ringer's solution, which is then collected. The balloon is deflated, withdrawn from the patient, and reinflated, and grossly visible adherent tissue is transferred to slides and fixed in a 50/50 ether-95 per cent alcohol mixture. The balloon is washed in saline, all washings are centrifuged, and the sediment is smeared on slides and stained. The entire procedure requires 45 minutes to one hour. See figure 2 for sample specimen.

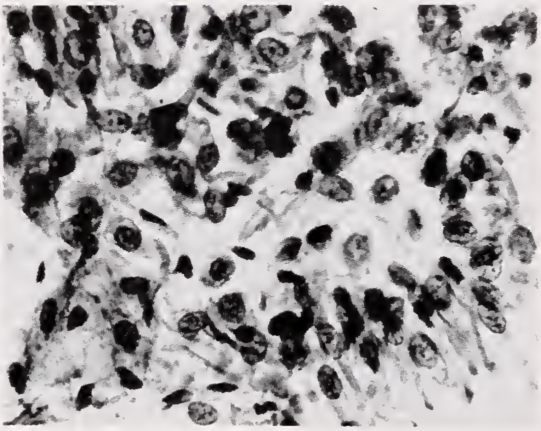

FIG. 2. Nonmalignant gastric columnar cells obtained by balloon abrasion in a patient suspected of having gastric cancer. Diagnosis—chronic gastritis (biopsy).

3. The Ayre brush.[21] An Ewald tube is introduced to assure an unobstructed passage to the stomach and to empty it of residual contents. The metal tip of the Ayre plastic tube is then introduced as far as possible into the stomach, and the brushes are exsheathed and rotated while the tube is slowly withdrawn. When the brushes reach the esophagus added resistance is encountered. At this point the brushes are ensheathed and the procedure repeated. The gastric mucosal cells adhere to the hog bristles, from which they are transferred to microscope slides and promptly fixed. Esophageal spasm is not infrequent. When it occurs the procedure must be interrupted until spontaneous relaxation occurs. See figure 3 for sample specimen.

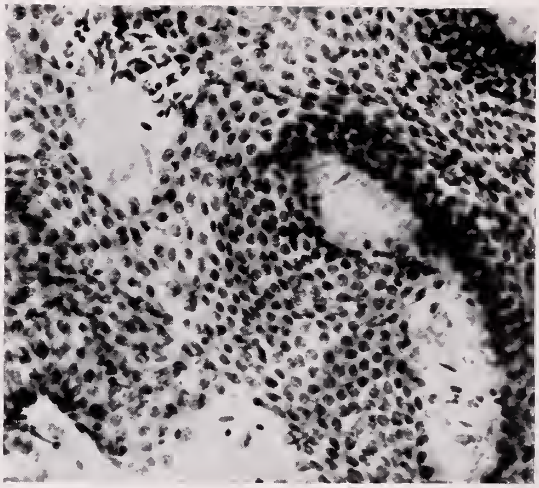

FIG. 3. Sheet of normal gastric columnar cells obtained by Ayre brush.

This method has two serious limitations: (1) It samples only a limited area of the gastric mucosa, and (2) it is potentially dangerous. Used without the fluoroscope, the position of the brushes is uncertain. Because the instrument is insufficiently flexible, the distal portion of a horizontal stomach, for example, is not easily reached. Although the brushes are often stained with blood, we[22] have had no serious bleeding. The difficulties in the use of the brush may be eliminated by further developments (the specimens provided are most impressive), and with improvements this device should be most useful.

The accuracy of cytologic methods has varied widely (from 90 to 66 per cent) in the confirmation of known cancer cases. With wider interest, better training, and refinements of the existing methods, a much higher degree of accuracy can be expected. The value of the method in the early diagnosis of gastric lesions has not been fairly assessed, since the majority of studies[14-26] have dealt with its application to either symptomatic cases or cases in which the diagnosis had previously been made by other methods. However, following the studies of Mosbech,[27] Mosbech and Videbaek,[28] Jorgensen,[29] Zamcheck,[6] and others, patients with pernicious anemia have become the object of more intensive study regarding the possibility of finding early malignant lesions of the stomach in these patients. Zamcheck,[6] Rubin,[30] we,[31] and many others have selected patients with this syndrome for either early screening or long-term follow-up studies with cytologic techniques. The series studied to date are still too small to be amenable to statistical analysis. Not until more intensive screening of a larger section of the population is undertaken in the manner of the screening of gynecologic patients for cervical and uterine malignancy will we be able to assess the efficacy of these techniques.

In 1939 Sir Arthur Hurst[32] made the ominous prediction that "The treatment of cancer of the stomach is purely surgical. The onset is so insidious and the diagnosis is often so difficult that even with earlier and more general use of the most modern methods of investigation, including gastroscopy, it is doubtful whether the most skillful surgeons will ever increase the five-year survival rate beyond the present maximum of 5 per cent for all cases, including the inoperable." Boles,[33] who cites this statement, believes that the burden of proof still lies on those who believe that the five-year survival rate has been appreciably bettered in the 20 years following Hurst's prediction. Marshall,[34] in his review of the treatment of gastric cancer at the Lahey Clinic (Boston), indicated a five-year survival rate in a group of 1,414 cases, seen to 1951, of 10.8 per cent, and this he attributed primarily to the decrease in operative mortality. As he states, "Great improvement is noted in the reduction of operative mortality over a 23-year period; mortality in subtotal gastrectomy is 3.2 per cent and in total gastrectomy 7 per cent," but he goes on to affirm Hurst's prediction by adding, "Very little progress has been made in earlier diagnosis, however, and there has been no increase in the resectability rate, which has remained constant over this period of 23 years." MacDonald[35] and others attempt to explain the relatively static condition in our battle against gastric cancer by citing the factor of biologic predeterminism. "Natural selection," he states, "is the best indication of operability and resectability. In general, patients with well-defined symptoms of gastric dysfunction are the best surgical candidates." Swynnerton,[36] in a review of 375 cases of gastric cancer, noted that "an outstanding finding of the present study is the marked prognostic significance of the length of history among patients treated with surgical resection. The greater the length of history, the better the prognosis."

The factor of biologic predeterminism enters into every phase of medicine, but there must be a point before we start playing the game of diminishing returns; and in an effort to find that point we must continue in our efforts to make earlier and earlier diagnoses, so that we may best cope with the problem with the tools available. Early diagnosis, made by mass screening for gastric cancer with cytologic techniques, may provide the surgeon with a better opportunity to apply the only definitive treatment now available.

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(Continued on page 378)

Disorders in Human Sex Differentiation*

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When confronted with a newborn whose external genital development appears ambiguous and not clearly male or female, there is great temptation to assign to the infant the sex which it most resembles. This, after all, is only an extension of the age-old practice of inferring sex by a single glance at the external genitalia with the tacit assumption that the entire reproductive system in conformity is either male or female. This "homespun method" of sex determination has its dangers, and misinterpretation of the sex of an infant may have tragic consequences both for the infant and its family. Knowledge of the factors which determine sex is increasing so rapidly that any overall concept of intersex can only be tentative. With these qualifications this communication is concerned with aberrations in physical sex present at birth. Modifications of sex which may arise later in adults from masculinizing or feminizing tumors are excluded, as are psychologic disturbances such as trans-sexuality, transvestism, and homosexuality.

Discrepancies between external genital morphology, internal accessory structures, and gonads have been known for quite some time. Klebs[1] in 1876 published his classification of hermaphrodites in which he recognized true hermaphrodites with both ovarian and testicular tissue, male pseudohermaphrodites with only testicular, and female pseudohermaphrodites with only ovarian tissue. The microscopic structure of the gonad became the criterion for sex determination. It was assumed that the type of gonad determined sexual outlook and desires, even in those cases in which gonadal structure and external genitalia were paradoxically contradictory.

In 1955 Moore and Barr[2] reported their observation of a sex-specific chromatin mass present in the intermitotic nuclei of somatic cells of normal females but absent from those of normal males. Soon enthusiasts suggested that this criterion of sex was unassailable, and reports appeared of complete sex reversal in the human.[3, 4] Apparent females, such as patients with gonadal dysgenesis, were considered genetic males; some apparent males with testes, such as patients with Klinefelter's syndrome, were considered genetic females.

Recently Tjio and Levan[5] and Ford and Hamerton[6] made the startling discovery that the total chromosome number in the human is the diploid number of 46 (44 autosomes and 2 sex chromosomes) instead of 48 as had hitherto been accepted. The presence of the XX sex chromosomes in the normal female and of the XY sex chromosomes in the normal male were confirmed. Examination of the genotype in individuals with intersexuality soon pointed to discrepancies between apparent sex, genetic sex, and the nuclear chromatin mass. Chromatin-negative

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patients with gonadal dysgenesis were found to have only 45 chromosomes with an XO,[7-10] or occasionally an XO/XX mosaic pattern[9, 11]; those with the Klinefelter's syndrome who were chromatin positive had 47 chromosomes with an XXY sex chromosome constitution.[9, 12, 13] Incongruities in sex differentiation, then, may involve diverse contradictions between chromosomal sex, gonadal sex, hormonal sex, and the external genitalia. Normally, objective sex is homogeneous; when it is heterogeneous the subject is termed an intersex. Recent advances in knowledge gained from experimental embryology, sex chromatin determinations, and human chromosome analyses have contributed to a better understanding of the factors concerned with sex differentiation.

Sex Differentiation

Normal human sex differentiation occurs as a chain of events which transform the embryo from a potentially bisexual organism, equipped with gonadal and genital primordia capable of developing in a male or female direction, to a fetus with either male or female genital organs. In differentiation of the sex structures the gonad is first affected, then the genital ducts, and finally the urogenital sinus and external genitalia. Normally the development of all the sexual structures conforms to the chromosomal sex established in the zygote at the time of fertilization.

There is considerable agreement that in placental mammals the differentiation of the primordial gonad into a testis or an ovary is genetically determined by the presence of the XY or XX chromosomes. The differentiation of the secondary sex organs does not appear to be under direct genic control but is influenced by secretions of the embryonic gonad and in particular the fetal testis, since the primordial structure of the genital tract appears to be female. The experimental studies of Jost[14] demonstrate that castration of female rabbit fetuses does not interfere with essentially normal differentiation of the female genital system; however, removal of the testis at an early stage results in male fetuses with entirely female development of the genital ducts, urogenital sinus, and external genitalia. Müllerian derivatives of rat fetuses can be grown in tissue culture, whereas the wolffian duct system regresses, indicating the need for the inductive influence of the fetal testis to stimulate male-type development.[15] The mediating substance, however, is not the same as the hormone secreted by the adult testis. Testosterone implanted into castrated male rabbits stimulates wolffian duct differentiation but fails to inhibit müllerian duct development.[14] These experiments help to explain the presence of internal and external female sex differentiation in patients with gonadal aplasia or dysplasia. Similarly, they explain the presence of müllerian structures on the side of a normal ovary and wolffian structures on the side of a testis in some unilateral true hermaphrodites.

During the later stages of development, when differentiation of the external genitalia takes place, functional integrity of the pituitary-adrenal-gonadal axis seems to be necessary.[14] Androgenic steroid hormones may be implicated in stimulating the completion of male external genital development, and conversely, such influences occurring abnormally may be responsible for the labioscrotal fusion and phallic enlargement occasionally seen in otherwise normal female infants.

Three important principles emerge and are essential to the understanding and subsequent practical management of the intersex:

1. Germ cells are bipotential. Both the embryonic gonad and the secondary sexual apparatus have the ability to differentiate oppositely to the genetic sex constitution; therefore, every individual is bisexual in varying degrees. Only relatively gross departures from the normal denote an intersex. The dividing line is a matter of opinion; thus, hypospadias in an otherwise normal male may or may not be accepted as feminization of the external genitalia.

2. Femininity is a state which approaches neuter, and masculinity is the result of a positive influence superimposed on this state.

3. There are no absolute criteria for diagnosing the sex of an individual—not the histology of the gonad, the nuclear chromatin pattern, nor the number and character of sex chromosomes.

TYPES OF INTERSEX AND THEIR MECHANISMS

Many factors take part in determining sex development in utero but none is all-powerful and decisive. The action of each can be modified by that of others. This explains why intersex presents itself in many forms.

Chromosomal sex. Sex is primarily determined by the number and type of chromosomes contributed by the ovum and spermatozoon at the time of fertilization. The nucleus of the normal mature ovum carries one X chromosome, whereas that of the normal spermatozoon carries either an X or a Y chromosome. Fertilization results in a zygote with either XX (female) or XY (male) chromosomes. As the ovum undergoes segmentation, the nucleus of each daughter cell should receive either XX or XY chromosomes, and each cell of all the tissues of the adult should show the same chromosomal complement (figures 1 and 2). This may be true for the majority of cells in the normal male or female, but there are exceptions, and the extent and frequency of mosaicism remains to be determined.

There may be an abnormal number of sex chromosomes. This is believed to result from faulty or unequal distribution during cellular division either before or after fertilization. One mechanism proposed is "non-disjunction" of the two chromosomes during reduction division of either gamete which could account for such genotypes as XO, XXY, XXX or YO (figure 3).[7, 11] The last is considered lethal, but the others are found in gonadal dysgenesis (Turner's syndrome), seminiferous tubule dysgenesis (Klinefelter's syndrome), and the so-called 'super female.' Inequality in the distribution of chromosomes during cell division also arises from such mechanisms as translocation, duplication, and deletion, and results in various patterns such as XXXX and XXXY. The nuclear chromatin is positive whenever there are two or more X chromosomes present in a nucleus, irrespective of its Y content.[16, 17] If only one X chromosome is present the nuclear chromatin determination is negative. Thus the XX, XXX and XXY arrangements give a positive test, while XY and XO result in a negative test. The recent report of a patient with an XO sex chromosomal

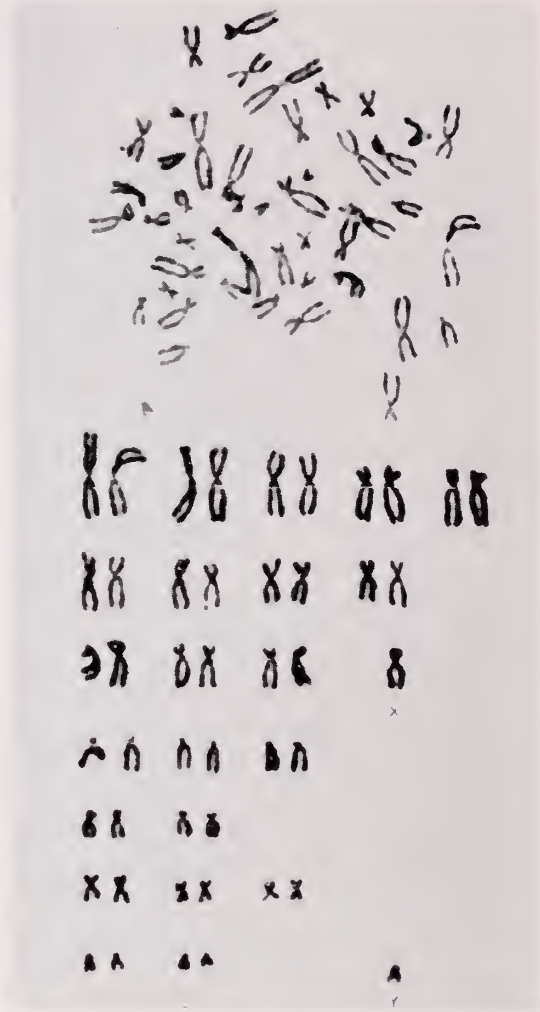


FIG. 1. At the top is shown the karyotype and at the bottom the idiogram of a normal human male; there are 22 pairs of autosomes and the XY sex chromosomes.

constitution and a positive nuclear chromatin test may require a revision of this interpretation.[18] Clinically, it is useful to consider Y as a positive force; therefore, whenever it is present the individual generally has a male phenotype (outward appearance). The XXY constitution gives a positive chromatin test in an individual who appears essentially male. Likewise the XO pattern gives a negative chromatin test in a phenotypic female.

Case 1. E. M. W., an adopted male infant, was referred for evaluation of unusually small external genitalia. When seen at the Georgetown University Hospital at 8 weeks of age the baby appeared a normal male. Both testes were in the scrotum and measured 10 by 6 mm. The penis was small, measuring 4.0 by 0.5 cm. A buccal smear showed 50 per cent of the cells to be chromatin-positive. Chromosomal analysis has not yet been carried out to confirm the suspected XXY chromosomal constitution.

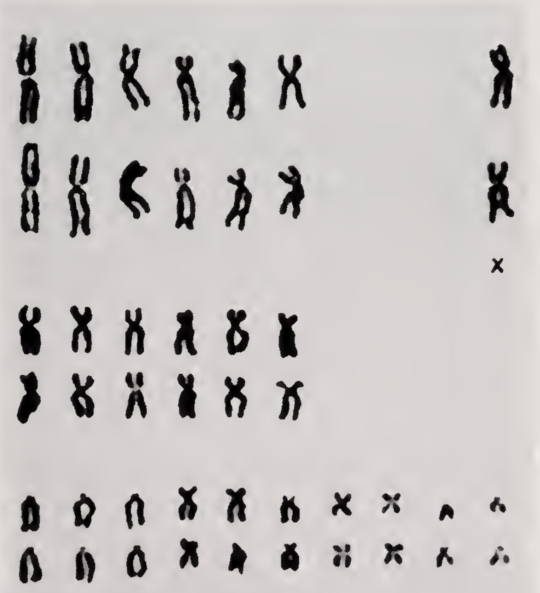


FIG. 2. Idiogram of a normal human female showing the 22 pairs of autosomes and the XX sex chromosomes.

Genetic sex. The chromosomal drive toward sex differentiation presumably depends upon genes distributed on the X and Y chromosomes. In addition, there are sex-influencing genes on the autosomes which can modify the sex chromosomal urge. The effect of these autosomal genes depends on the balance of their inherent force and the strength of the basic sex chromosomal power. Minor autosomal genetic masculinizing influences in an otherwise normal female probably account for "constitutional" hirsutism and may even be responsible for some clitoral enlargement. It is thus to be expected that this syndrome shows a strong familial tendency.

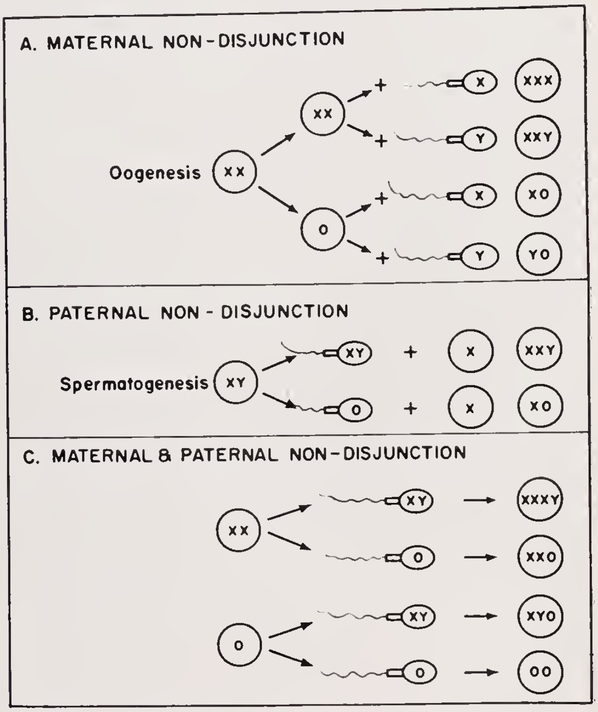

A. MATERNAL NON-DISJUNCTION
Oogenesis
XX
XX
O
+
X
Y
XXX
XXY
XO
YO
B. PATERNAL NON - DISJUNCTION
Spermatogenesis
XY
XY
O
+
X
XXY
XO
C. MATERNAL & PATERNAL NON-DISJUNCTION
XX
O
XY
O
XXXY
XXO
XYO
OO

FIG. 3. Diagrammatic representation of the various types of chromosomal complexes resulting from maternal, paternal, and both maternal and paternal nondisjunction. Of these complexes, the YO and OO are nonviable. All the other types of chromosomal complexes have been identified in human cells. (From Solnitsky, O.: The human chromosomes. Georgetown Med. Bull., 1961, 15, 47.)

Case 2. K. T. was referred to the Georgetown University Hospital at the age of 21 months because of clitoral enlargement, generalized hirsutism, and hypotonia which had been present since birth. On examination the external genitalia were normal female except for the clitoris, which measured 10 mm. in length, and hypertrichosis, which was most marked over the face, shoulders, back, and limbs. Muscle tone was poor, but neurologic examination was otherwise unremarkable. Serum electrolytes and the bone age were within normal limits. Sex chromatin determination was positive. The urinary excretion of 17-ketosteroids was 0.34 mg. per 24 hours.

The family history was significant in that at birth three older female siblings had shown similar clitoral enlargement and hirsutism which had gradually regressed. The mother's pregnancies had all been normal, and there was no history of hormone administration. Chromosomal analysis for possible mosaicism and cystoscopic examination to confirm the presence of a cervix are planned.

A powerful autosomal genetic influence operating at an early stage in embryonic development may interfere with gonadal differentiation and explain the findings of ovotestes or a testis on one side and an ovary on the other in a true hermaphrodite. Since autosomal genetic influences are mainly masculinizing, hermaphrodites generally (though not always) show a positive chromatin test and an XX chromosomal complement.[16] The phenotype may be male, female, or ambiguous. Weak masculinizing genetic influences of the autosomes and Y chromosome may be responsible for failure of testicular development in an individual with an XY chromosomal make-up. Lack of normal organizing capacity of such a testis, whether caused by some noxious environmental influence or genetically determined, may be associated with disturbances in the development of the genital ducts, phallus, and urogenital sinus, and appears as an intersex. Hypospadias occurring in an otherwise normal male shows a strong familial and inherited tendency; it is frequently associated with cryptorchidism and abnormalities of genital duct development on the affected side.

Gonadal sex. Where gonadal development is arrested early or fails altogether, female sex differentiation occurs independent of whether the chromosomal constitution is XO, Xx, XX, XO/XX or even XY. If medullary elements of the primitive gonad persist they may cause variable degrees of masculinization of the external genitalia, as seen in the syndrome of "gonadal dysgenesis with phallic enlargement."[19] With progressive testicular maturation more masculinization of the internal ducts and external genitalia takes place, so that there is no distinct boundary which separates the syndrome of "gonadal dysgenesis with phallic enlargement" from that of the male pseudohermaphrodite with testicular hypoplasia.

Case 3. D. S. was referred to the Georgetown University Hospital with the tentative diagnosis of gonadal dysgenesis. Pregnancy and labor had been unremarkable, and there were three normal siblings in the family. At birth the infant weighed 4 lb. 8 oz., was dusky, lethargic, and hypotonic. She required resuscitation. When seen at the age of 6 weeks the infant was small for her age and cyanotic. Pertinent features were webbing of the neck, a low hairline, a broad chest, pitting edema of the feet, and an enlarged clitoris measuring 11 mm. without labioscrotal fusion. The buccal smear was chromatin-negative. A chest X-ray film showed a large heart; the electrocardiogram was consistent with the diagnosis of atrioseptal defect. The urinary excretion of 17-ketosteroids was 0.1 mg. per 24 hours. Chromosome analysis revealed an XO sex chromosomal complement (figure 4).

Hormonal influences. Masculinity is the result of positive hormonal influences superimposed upon the tendency of the primordial structures to be developed in a female direction. There is the same inherent tendency of the external genitalia to feminize in the absence of androgenic stimulation. Androgens inhibit the descent of the vagina from the urogenital sinus, stimulate growth of the genital tubercle, and cause fusion of the labioscrotal folds. Androgenic stimulation in a female fetus before the twelfth week of gestation causes male-type differentiation of the external genitalia, giving rise to female pseudohermaphrodism. If exposure to androgenic hormones occurs after this time, labioscrotal fusion does not occur, although clitoral enlargement may follow at any time during intrauterine existence, or even after birth.

Masculinization of the external genitalia of females babies has been reported following the ingestion of testosterone,[20] synthetic progestational agents,[21] and diethylstilbestrol.[22] Rarely virilization of the female fetus occurs if the mother is suffering from a virilizing tumor or if idiopathic virilism develops during pregnancy. Occasionally the cause of prenatal androgen exposure in the fetus cannot be identified.

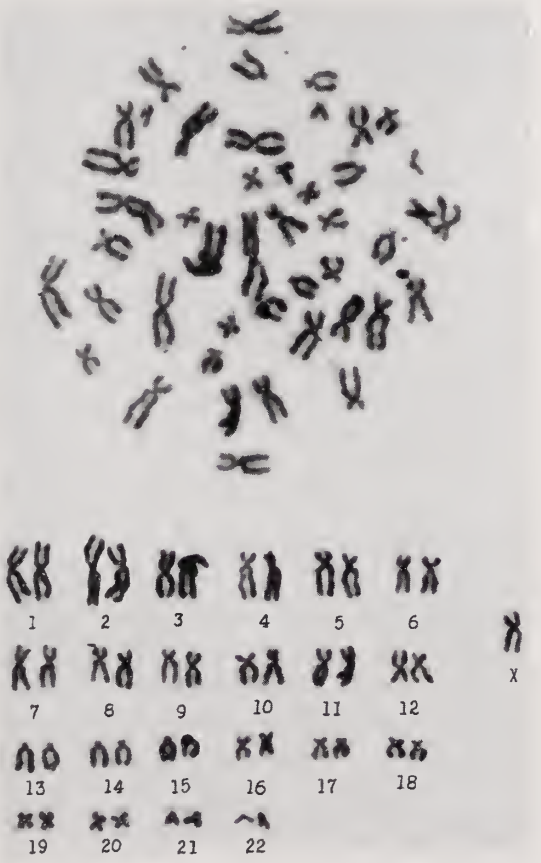


FIG. 4. Karyotype and idiogram of patient D. S. (case 3). There are 45 chromosomes instead of the normal diploid number of 46. Note presence of only one X sex chromosome.

Case 4. At birth T. O. had ambiguous external genitalia, with labioscrotal fusion, and a urethral opening at the base of a phallus which measured 14 by 8 mm. A sex chromatin determination was reported as negative. Cystoscopy was performed, but no vagina was identified. The baby was tentatively diagnosed as a hypospadiac male and transferred to the Georgetown University Hospital for further study.

At thirteen days of age the infant appeared well. Physical examination was normal except for the ambiguity of the external genitalia. Rectal examination suggested the presence of a uterus. Repeated sex chromatin determination was positive, indicating that the baby was a female pseudohermaphrodite. 17-Ketosteroid excretion was 0.13 mg. per 24 hours; pregnanediol and pregnanetriol were absent from the urine. Repeated cystoscopic examination showed a urethral opening in the anterior vaginal wall and a normal bladder. A normal cervix was visualized at the apex of the vagina.

Two years prior to the birth of this baby the mother had had a miscarriage. Because of irregular periods she was given 5 mg. daily of Norlutin (19-nor, 17-ethinyl testosterone). The drug was discontinued when she became pregnant again but was restarted at six weeks of gestation because of threatened abortion and continued until two weeks prior to delivery. The dose had been 15 mg. daily.

By far the commonest cause of female pseudohermaphrodism is congenital adrenal hyperplasia, which accounts for approximately one-half of all cases with ambiguous external genitalia. The basic disorder is an inborn enzymatic defect in the adrenal's capacity to synthesize hydrocortisone. Excessive corticotropin stimulation leads to adrenal cortical hyperplasia and excessive production of adrenal androgens and cortisol precursors. This syndrome is well known and requires no elaboration. It can readily be distinguished from other forms of ambisexual development because the affected infant is chromatin-positive and the urinary excretion of both 17-ketosteroids and pregnanetriol are raised.

Case 5. A. A. was born with external genitalia which appeared male except for hypospadias and a urethral opening at the base of the phallus. An oral smear was interpreted as chromatin-negative. The baby was registered as a male and discharged from the hospital. Two days later the mother noted bleeding from the "urethral" orifice. During the next few days the infant began to refuse food and became lethargic. The weight fell from 6 lb., 11 oz. at birth to 5 lb., 5 oz. Cyanotic attacks occurred, and the infant became limp. The child was referred to the Georgetown University Hospital.

On admission the infant was cyanosed, dehydrated, and in shock. Pertinent laboratory data revealed sodium of 124 mEq., potassium of 10.6 mEq., chlorides of 100 mEq. per liter of serum, and blood urea nitrogen of 68 mg. per 100 ml. of blood. The hematocrit was 63.

The combination of external genital malformation, "vaginal" bleeding, circulatory collapse, and electrolyte disturbance strongly suggested the diagnosis of female pseudohermaphrodism due to congenital adrenal hyperplasia of the salt-losing variety. The baby responded rapidly to appropriate therapy. A repeated buccal smear showed a positive chromatin pattern. Because of the bleeding cystoscopic examination was carried out; a separate urethral orifice, normal bladder, vagina and cervix were visualized. The vaginogram is shown in figure 5. Subsequent studies confirmed the infant's inability to conserve sodium, as well as the enzymatic defect in cortisol biosynthesis.

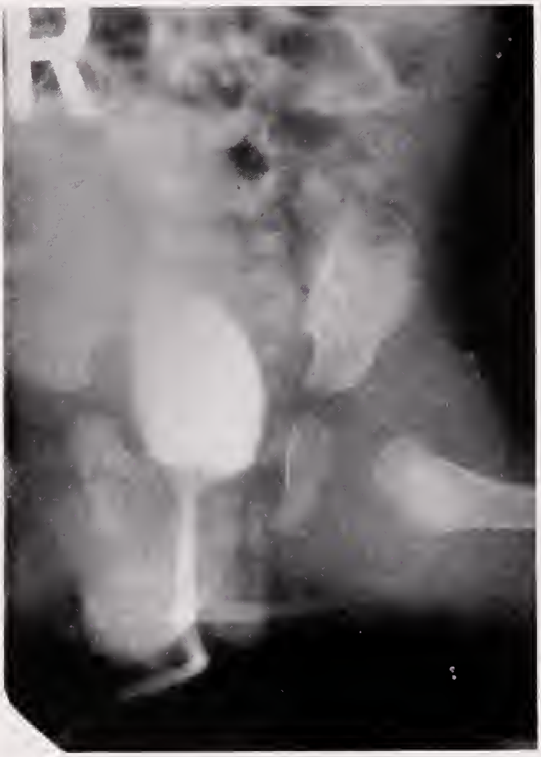


FIG. 5. Vaginogram of patient A. A. (case 5), showing the vagina, uterus and ovarian tubes outlined by contrast medium.

The family history in this case is worthy of note. The mother had three previous pregnancies; the two older children are entirely normal females; the third baby was born with ambiguous genitalia, diagnosed as hypospadiac male with cryptorchidism, and it died in early infancy of gastroenteritis. At autopsy bilateral adrenal hyperplasia was noted.

The syndrome of feminizing testes is a rare but highly distinctive familial condition in which an individual may appear entirely female or exhibit a variable degree of ambisexual development of the external genitalia. The gonads are testes rather than ovaries and may be located in the labia majora, inguinal canals, or intra-abdominally. Nuclear chromatin is absent, and the karyotype is XY. This syndrome is believed to be caused by a sex-linked recessive gene or a sex-limited dominant autosomal gene.[23, 24] The mechanism of the feminization is not clear but does not appear to be due to excessive production of estrogens by the Leydig cells.[25]

DIFFERENTIAL DIAGNOSIS (Table 1)

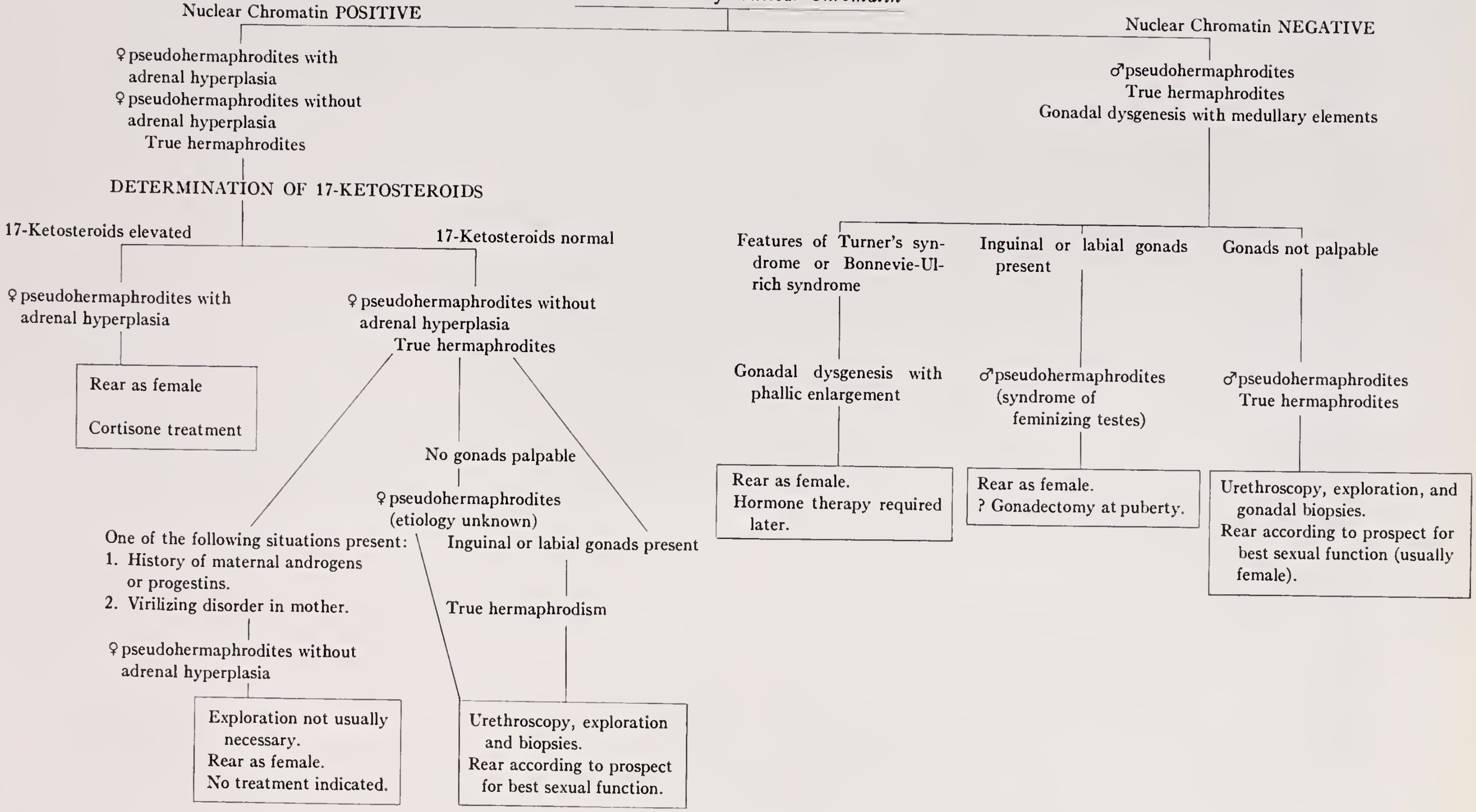
The physician must be alert to the possibility of intersexuality whenever a newborn's genitalia appear abnormal. The phallus of the normal male and the clitoris of the normal female may vary greatly in size but are nevertheless readily distinguished. The former measures a few centimeters in length, the latter a few millimeters. The ambiguous phallus may resemble either an enlarged clitoris or a small penis. Chordee with angulation, absence of the ventral portion of the foreskin and hypospadias or labioscrotal fusion of variable degree may all be present. Deviation from the normal in any one of these respects, size or shape of the phallus, degree of labial fusion, abnormality of position of urethra or vagina, or absence of testes in apparent males should give rise to suspicion of intersexuality.

A history of consanguineous marriage or of neonatal death of a previous infant with abnormality of the external genitalia is strongly suggestive of the presence of congenital adrenal hyperplasia. A history of hormone therapy, often for habitual spontaneous abortion and particularly if started before the third month of pregnancy, may be the cause of female pseudohermaphrodism without congenital adrenal hyperplasia. If more than one infant with external genital malformation is born into a family of all female siblings and no normal male siblings, the diagnosis of male pseudohermaphrodism must be suspected.

The problem facing the physician confronted with an intersex is the decision as regards the sex of rearing. Since sex assignment must await

TABLE 1

Determination of Nuclear Chromatin


Nuclear Chromatin POSITIVE
♀pseudohermaphrodites with adrenal hyperplasia
♀pseudohermaphrodites without adrenal hyperplasia
True hermaphrodites
DETERMINATION OF 17-KETOSTEROIDS
17-Ketosteroids elevated
♀pseudohermaphrodites with adrenal hyperplasia
Rear as female
Cortisone treatment
17-Ketosteroids normal
♀pseudohermaphrodites without adrenal hyperplasia
True hermaphrodites
One of the following situations present:
1. History of maternal androgens or progestins.
2. Virilizing disorder in mother.
♀pseudohermaphrodites without adrenal hyperplasia
Exploration not usually necessary.
Rear as female.
No treatment indicated.
No gonads palpable
♀pseudohermaphrodites (etiology unknown)
Inguinal or labial gonads present
True hermaphrodism
Urethroscopy, exploration and biopsies.
Rear according to prospect for best sexual function.
Nuclear Chromatin NEGATIVE
♂pseudohermaphrodites
True hermaphrodites
Gonadal dysgenesis with medullary elements
Features of Turner's syndrome or Bonnevie-Ulrich syndrome
Gonadal dysgenesis with phallic enlargement
Rear as female.
Hormone therapy required later.
Inguinal or labial gonads present
♂pseudohermaphrodites (syndrome of feminizing testes)
Rear as female.
? Gonadectomy at puberty.
Gonads not palpable
♂pseudohermaphrodites
True hermaphrodites
Urethroscopy, exploration, and gonadal biopsies.
Rear according to prospect for best sexual function (usually female).

accurate diagnosis, it is most important that the necessary evaluation be carried out as soon as possible. At the same time the difficulties must be explained to the parents in such a way as to enable them to maintain a perfectly open mind as to the sex of their offspring. On no account should the explanation suggest an "unfinished male," since female pseudohermaphrodism is by far the more common abnormality. Anxieties must be allayed and any questions regarding later development and, in particular, fertility, must be deferred.

Of prime importance is the differentiation of female pseudohermaphrodism due to congenital adrenal hyperplasia with or without the salt-losing tendency from other forms of nonprogressive hormonal or nonhormonal ambisexual development. The screening procedures which are readily available and are most useful in the delineation of the problem are the determination of the sex chromatin and of the urinary 17-ketosteroid excretion.

Sex chromatin determination. When proper stains are applied to scrapings from the buccal mucous membrane, the specific nuclear chromatin is readily visible in more than 25 per cent of cells from females and in less than 5 per cent of cells from males. Patients with abnormalities in sex differentiation may thus be classified as having a positive or negative chromatin test—not a female or male nuclear sex—depending on whether the characteristic nuclear chromatin is present or absent. Occasionally there may be more than one chromatin body present corresponding to $(n - 1)$ X chromosomes. In a patient with ambiguous sexual development a positive test suggests either female pseudohermaphrodism with or without congenital adrenal hyperplasia or true hermaphrodism. Conversely, a negative test suggests gonadal dysgenesis, male pseudohermaphrodism, or, more rarely, true hermaphrodism.

17-Ketosteroid excretion. After the second week of life the 24-hour urinary 17-ketosteroid excretion is below 0.5 mg. per 24 hours. If this is exceeded, hyperadrenocorticism is strongly suggested. Thus, urinary 17-ketosteroid determination differentiates pseudohermaphrodism due to congenital adrenal hyperplasia from other forms of intersexuality. If in addition the chromatin test in the infant is positive the diagnosis is confirmed. Other forms of intersexuality are relatively rare, and the criteria for diagnosis are the gonadal sex and internal accessory sex structures. The following investigative procedures must then be performed:

Urethroscopy. If there is a single perineal opening to the urogenital sinus, inspection through an infant urethroscope may reveal that the vaginal pouch ends blindly. The presence of a cervix indicates female internal organs. By the introduction of radiopaque material the presence or absence of a urogenital sinus, a uterine cavity and, at times, ovarian tubes may be demonstrable.

Chromosomal analysis. This determination is most helpful in such conditions as gonadal dysgenesis, Klinefelter's syndrome, female pseudohermaphrodism without congenital adrenal hyperplasia, and male pseudohermaphrodism.

Laparotomy. If any doubt exists after the foregoing studies have been completed, direct inspection of the internal genital structures is mandatory. At operation biopsy specimens must be taken from both gonads.

ASSIGNMENT OF SEX, GENDER ROLE, AND MANAGEMENT

Once the correct diagnosis has been established, a firm decision can be made regarding the sex of rearing and hence the gender role which the individual is going to assume.

Gender role implies not only the legal and social designation of male or female but also the psychosexual orientation of an individual in relation to members of the same or opposite sex. It is the summation of physical appearance, dress, hair style, mannerisms, and social behavior, as well as sexual orientation. Gender

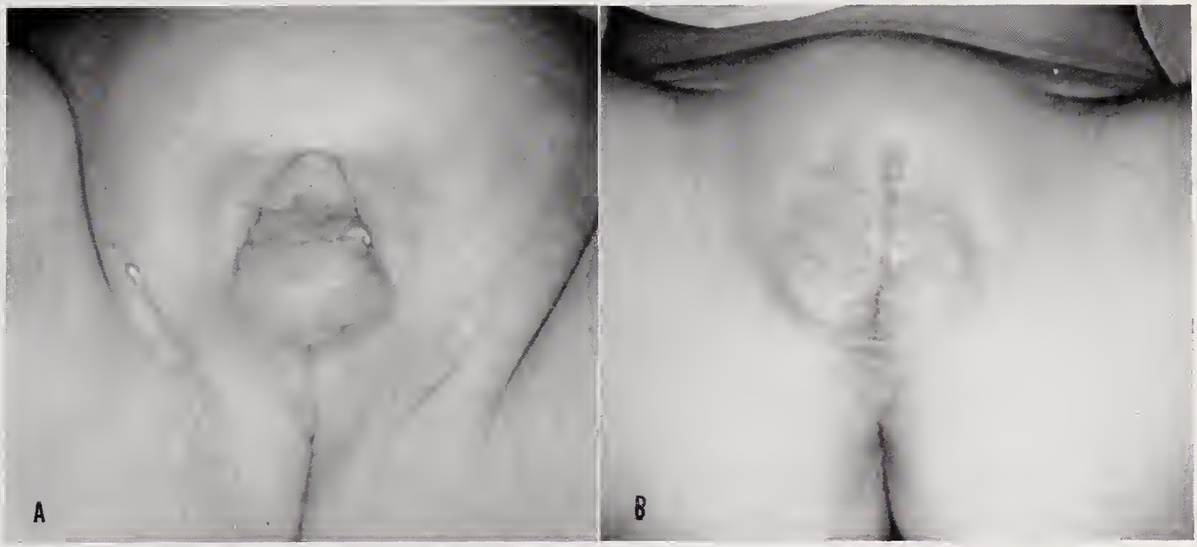


FIG. 6. External genitalia of a female pseudohermaphrodite (A) before and (B) after corrective surgery.

role is not related to chromosomal sex, gonadal sex, or any other sex determiners, but is built up cumulatively through experiences encountered and transacted; normally it is well established by 2 or 3 years of age even in the presence of external genital discrepancies.[26] Subsequent development of heterosexual characteristics will not shake the conviction of sexual identity provided it has been firmly implanted. These considerations are of the utmost importance in the management of the intersex; once sex is assigned, gender role must be supported by whatever surgical, hormonal, and psychologic measures are indicated. With proper management individuals who were born with ambiguities in their sexual development can be helped to lead a normal life and to attain the goal of satisfactory personal relationships.

The management of the female pseudohermaphrodite is without difficulty, since the internal organs are entirely female. The abnormality is confined to the external genitalia, and a female hormonal sex at puberty as well as fertility may be anticipated. Such patients should be reared as females and all ambiguity removed by corrective surgery (figure 6). In the case of congenital adrenal hyperplasia treatment with steroids should be instituted as soon as possible after birth to prevent accelerated growth and development, and progressive virilization. With adequate treatment subsequent feminine development, menstruation and fertility are normal.

In all other types of intersexuality, the ambiguity of the external genitalia is associated with defects in gonadal differentiation and function, so that such individuals are invariably sterile. Sex assignment and management present more difficulty and have to be determined individually for each child. In general, however, since neither the sex chromosomes nor the nuclear sex chromatin, the gonads, nor the nature of the internal genital ducts are absolute criteria for the diagnosis of sex, the major consideration must be given to the possibilities which exist for achieving unambiguous and sexually useful genital structures. Unless it is reasonable to expect that the external genital abnormality can readily be corrected and that the adult phallus will be of adequate size and serviceable, it is far better to rear the child as a female and correct the external genitalia accordingly. Thus a baby, even though chromatin-negative and with XY chromosomes, whose phallus is small and hypospadiac, and who will never function as a satisfactory male, is better made neuter and brought up as a female. Femininity can later be strengthened by the administration of estrogens. This approach follows the basic principle laid down earlier, namely, that femininity approaches the neuter state. A satisfactory vagina can be constructed when required and the gonads removed at puberty should they produce a heterosexual hormonal pattern.

REASSIGNMENT OF SEX

Occasionally children are assigned to a totally inappropriate sex because of errors in diagnosis or because of ignorance of the principles which should properly govern this choice. In such patients the decision to change the sex is largely dependent upon the age of the child and the degree to which the gender role has been established. Beyond 18 months of age gender role is usually firmly established and changes of sex should be scrupulously avoided even though this may deprive the child of the possibility of fertility in adult life.[27] Actual child-bearing as opposed to biological fertility is not determined by gonadal and hormonal function alone but requires the cultural transaction of dating, mating, and marrying, which are intrinsically bound up with gender role and erotic orientation. A change in sex beyond the second year of life often leads to serious psychologic and emotional maladjustment, so that any plan to preserve fertility may carry its own seed of defeat by ensuring that fertility never culminates in reproduction.

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The Use of Telephone Transmission in the Procurement of Inpatient Electrocardiograms[*]

A Technical Study

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In the past decade electronic engineers have developed many new instruments for the purpose of transmitting physiologic data. Such developments have been accelerated in part by the demands of space exploration. Many techniques, first utilized in monitoring physiologic changes in missile-borne animals, are now being adapted to the study of hospital-bound humans. These applications have ranged from the monitoring of the heart rate and blood pressure in postoperative patients to the recording of an electrocardiogram during the exercise phase of a Master test. However, the development of new instrumentation in any field does not guarantee an immediate success in its practical application.

The present technical study was undertaken at the Georgetown University Medical Center as the result of an interest of the Heart Disease Control Program, U. S. Public Health Service, in expediting the transmission of electrocardiograms from a subject at a distant point to a centrally located electrocardiographer. Although it is well known that telephone transmission can be utilized for sending electrocardiograms from homes or offices outside of the hospital to the Heart Station,[1] the purpose of this project has been limited to a study of the application of such techniques within the hospital environment. The goal of rapid transmission would be more efficient and more satisfactory patient care. It was anticipated that the application of telephone transmission might provide for better utilization of the electrocardiographer's time, since it would presumably make possible a constant, regulated flow of tracings from the bedside directly to the centrally located Heart Station. In the event of an emergency, such a as myocardial infarction or a paroxysmal arrhythmia, this rapid transmission technique from

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the bedside to the Heart Station would make expert interpretation immediately available.

ROUTINE HOSPITAL EKG PROCEDURE

The technique of telephone transmission can best be evaluated by comparing it with any efficient method already in use. The system in effect at the Georgetown University Hospital for a number of years has included the services of three technicians working from a central Heart Station. These technicians are available for performing tracings at the bedside in the case of bedridden patients or at the Heart Station in the case of ambulatory patients. They perform both routine and emergency electrocardiograms between the hours of 8:00 a.m. and 4:30 p.m. All tracings required between 4:30 p.m. and 8:00 a.m. and on weekends and holidays are taken by members of the house staff. Tracings taken by the technicians or the house staff accumulate in the Heart Station each day for interpretation by the electrocardiographer. His official interpretations are made in the early afternoon, and by midafternoon of each day he is able to provide a report for all of those tracings taken during the preceding night or during the morning before his arrival. Each tracing, together with this report, is mounted on a standard EKG sheet, and a photostatic copy is made during the course of the late afternoon. At the end of the regular working day these accumulated EKG'S are distributed to the wards by the technicians, and duplicate copies in the case of private patients are mailed directly to the attending physician. Thus, the vast majority of tracings together with their interpretations are inserted in the patients' records by the late afternoon of the same day in which the tracing has been requested. This system has served for the recording, interpretation, and reporting of from 20 to 40 routine and emergency electrocardiograms in a nine-hour period. It was agreed that if telephone transmission is to have a significant role within the hospital setting, the results of its use must compare favorably with the system outlined above.

TELEPHONE TRANSMISSION

Frequency modulation equipment* was used. This system consisted of two separate units, an oscillator-modulator (figure 1) used in conjunction with a standard electrocardiographic machine at the patient's bedside and a demodulator set up in the Heart Station to receive the tracing transmitted over the hospital telephone line (figure 2). The tracing received in the Heart Station was recorded on a second standard electrocardiographic machine. Figure 3 presents a schematic diagram of this circuit. The tracing taken at the bedside could be compared with that received in the Heart Station for the purpose of detecting any distortion introduced by telephone transmission. After a period of six months, during which the system described above had been in use, the following observations were made.

Fidelity. It had been demonstrated initially that the two electrocardiograph instruments were well matched in their response characteristics. Tracings taken simultaneously by the two machines from a single patient could be superimposed. Therefore any differences between a tracing sent from the bedside and that received in the Heart Station could be ascribed to the telephone transmission system. The maximum variation in the amplitude during transmission proved to be less than 5 per cent when the receiving instrument had been calibrated so that 1 millivolt produced a 10 mm. deflection. There were no differences in the patterns of the tracings recorded, and under usual operating conditions there appeared to be no distortions of the components of the EKG complex by telephone transmission (figure 4).

Interference. Since it was necessary to utilize manual telephones previously installed at the patient's bedside, the electrocardiogram was transmitted to the Heart Station via the central switchboard. The general switchboard activity resulted in the generation of static which was picked up on the Heart Station line and produced

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* Manufactured by Johnnie Walker, Inc., Kansas City, Mo.

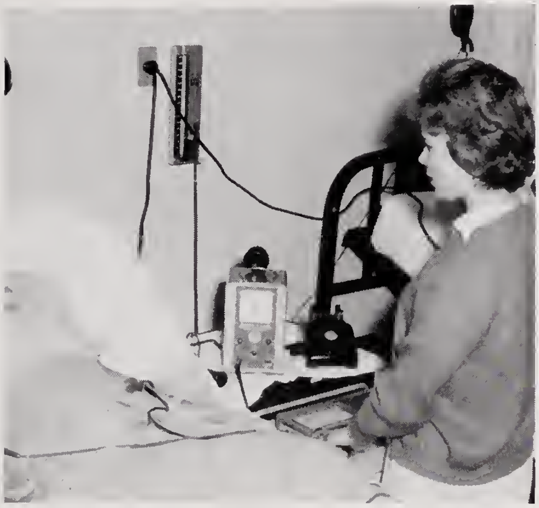

FIG. 1. Oscillator-modulator unit placed at the bedside with the telephone in position to transmit an electrocardiogram.

artifact on the EKG tracing. The insertion of a telephone transformer between the hospital switchboard and the demodulator in the Heart Station eliminated most of this interference, but very often artifacts appeared on the tracings despite the use of this transformer. Usually such interference could be recognized readily, but occasionally an artifact would be produced which might result in misinterpretation of the tracing (figure 5).

Problems in transmission. As indicated above, all telephones in hospital rooms are manual phones, and circuit connections from such phones must be made by a switchboard operator. During periods of heavy switchboard traffic delays of several minutes were often encountered before satisfactory telephone communication with the Heart Station could be made. This delay would, of course, be eliminated by the installation of dial telephones.

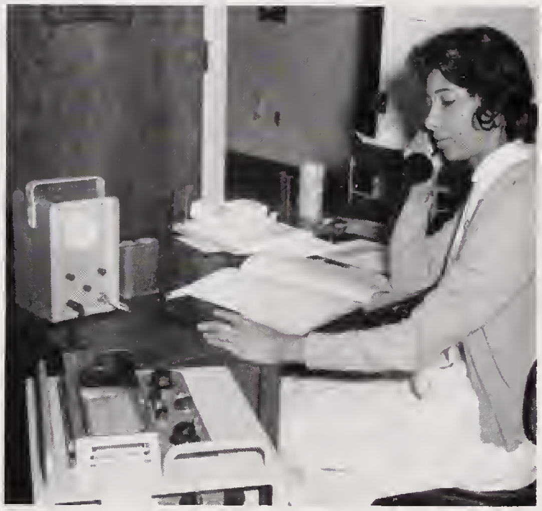

FIG. 2. Demodulator unit connected with the receiving EKG machine in the Heart Station. The technician manipulates a switch to transfer the incoming tracing to the recording circuit.

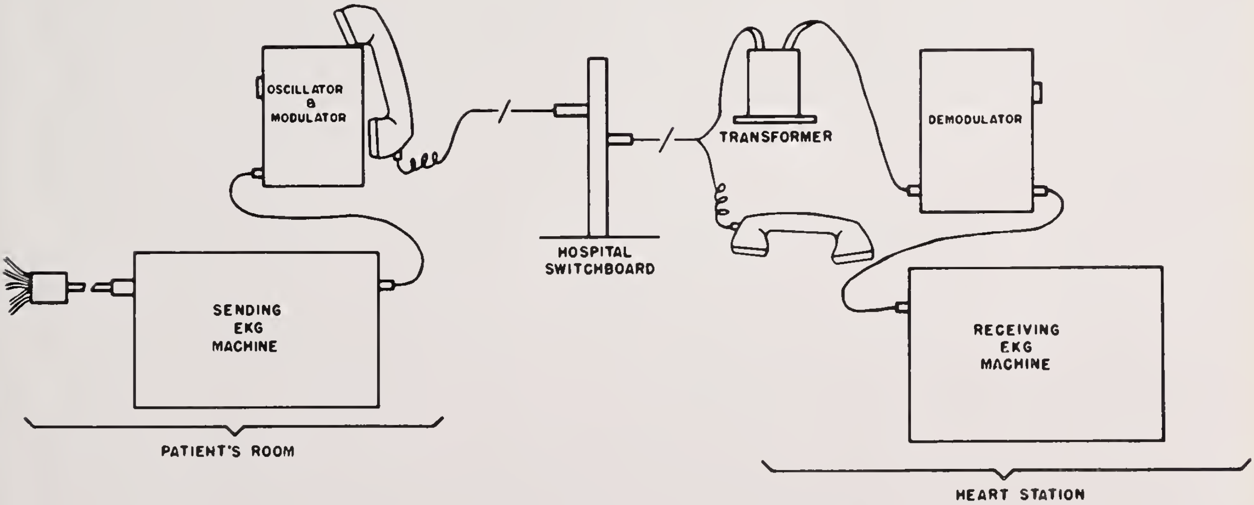

FIG. 3. Schematic diagram of telephone transmission circuit of electrocardiograms.

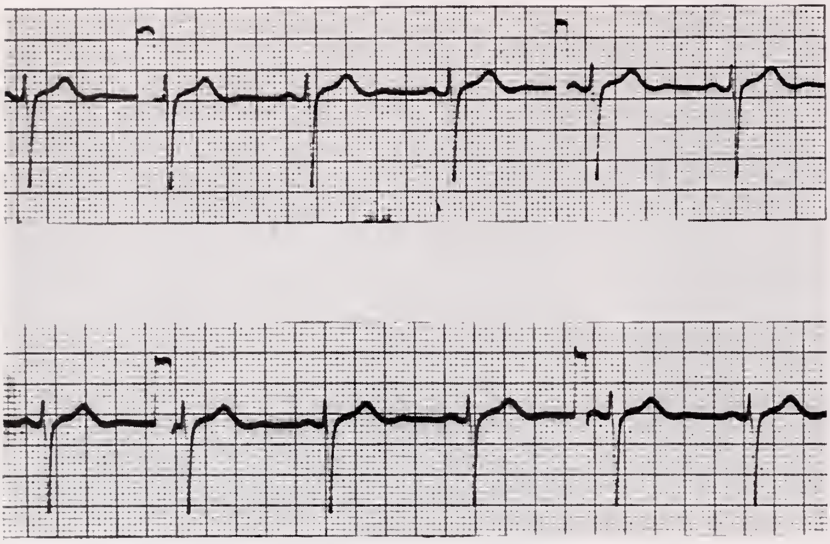

FIG. 4. Upper tracing taken at the bedside. Lower tracing received in the Heart Station via telephone transmission. Calibration signals indicate simultaneous points on the two tracings.

It was also found necessary to recalibrate the receiving machine as the sending machine was moved from room to room. This required the constant attendance of a technician at the EKG machine in the Heart Station. The same telephone circuit used for transmitting electrocardiograms was also available for conversation between the two technicians involved in the procedure. It has proved possible for the technician at the receiving end to interrupt in the middle of a tracing in order to notify the sender of some technical difficulty. Pertinent information about the patient, including name, identification number, etc. was recorded by direct telephone conversation prior to the inscription of each tracing.

ADAPTABILITY OF TELEPHONE TRANSMISSION TO STANDARD ELECTROCARDIOGRAPHIC EQUIPMENT

It was necessary to perform slight alterations in the electrocardiographic circuit in order to accommodate the oscillator-modulator utilized in telephone transmission. This required consultation with electronic engineers in order that satisfactory adaptation of the telephone transmission equipment to the EKG recorders could be made. Periodically such consultation was necessary in the repair and maintenance of the instruments.

Time Studies. It was anticipated at the onset of this study that the instrumentation at the receiving end could be made semiautomatic so that the drive motor of a "slave machine" in the Heart Station could be under the control of the technician sending the tracing from the patient's bedside. It was not possible to incorporate such a mechanism into our system, however, and throughout this study at least two technicians were required for satisfactory transmission. The technician in attendance at the Heart Station controlled the drive motor of her EKG recorder and made any necessary adjustments in the base line and in the calibration of the receiving instrument. Her presence was also necessary for the detection of any artifacts produced by static during the recording so that unsatisfactory tracings could be repeated. Although the technician in attendance at the Heart Station could be utilized in the work of mounting tracings and typing reports, the demands of telephone transmission actually required most of her time.

A study of several routine work-days revealed that the average time involved in EKG transmission by telephone was 17.5 minutes per patient. This compared with a period of 7.5 minutes per patient when the tracings were taken in the routine fashion without telephone transmission. An average of 10 minutes was added to the time involved per patient when telephone transmission was utilized. This additional time was

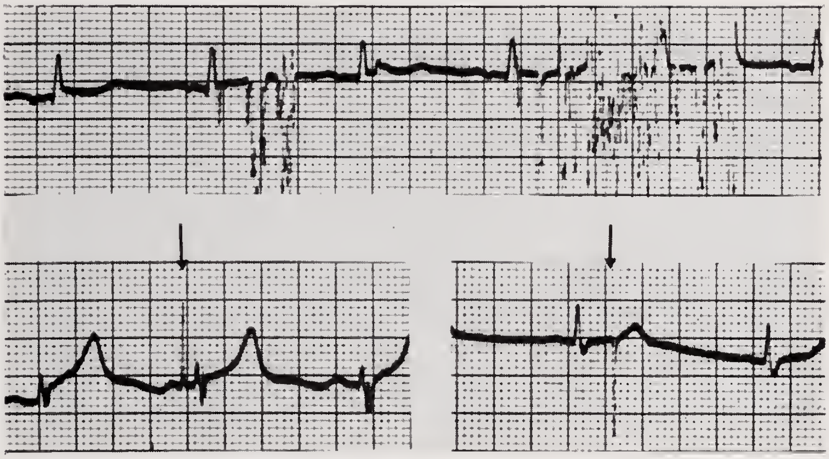

FIG. 5. Upper tracing—example of static interference from the hospital switchboard. Lower tracing—isolated static signals (indicated by arrows) which might be misinterpreted as QRS complexes.

accounted for in the delays involved in completing telephone calls to the Heart Station, in recalibrating the receiving instrument with each application, in the repetition of any portion of the tracing rendered unsatisfactory by the presence of static, and in shifting bedside tables and furniture in the patient's room in order to place the oscillator-modulator adjacent to the telephone. In many instances excessive noise within the patient's room rendered telephone transmission unsatisfactory.

CONCLUSIONS

Presently available equipment for telephone transmission of electrocardiograms when utilized in a hospital with manual bedside telephones does not increase the speed or efficiency of EKG procurement. Although telephone transmission generally provides satisfactory tracings, the occurrence of line static, the shifts in calibration response, and the increase in technician's time involved present obstacles yet to be overcome. It is anticipated that further technical developments will solve such problems.

Electrocardiograms transmitted by telephone are satisfactory for routine clinical interpretation.

The operation of telephone transmission equipment on a routine basis is not yet trouble-free.

It has not been possible to gain any efficiency in the use of technician-time with telephone transmission.

Technical problems in the form of line static, shifting calibration, and the need for constant supervision of the receiving EKG machine are yet to be overcome.

The utilization of telephone transmission of electrocardiograms in our hospital offered no advantages over the system previously in use.

ACKNOWLEDGMENT: The authors would like to express their thanks to Mrs. Jean McDaniels, Miss Mollie Donahue, and Mrs. John Kennedy, technicians at the Heart Station, for their coöperation in this study. We should also like to thank Dr. Caesar Caceres of the Heart Disease Control Program for his technical advice.

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Cardiac Catheterization, a Clinical Discipline[*]

Illustrated by a Study of Ebstein's Anomaly of the Tricuspid Valve

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In 1628 William Harvey wrote what was probably the first description of cardiac auscultation: "... with each movement of the heart, when there is a delivery of a quantity of blood from the veins to the arteries, a pulse takes place and can be heard within the chest."[1] Two hundred years later Laennec's invention of the stethoscope[2] gave tremendous impetus to the clinical assessment of cardiovascular disease. Sir James Mackenzie's "Study of the Pulse, Arterial, Venous, and Hepatic, and of the Movements of the Heart"[3] remains a remarkable treatise on the value of the nonauscultatory physical signs in this assessment. Less than 30 years after Mackenzie's book was published Forssmann[4] demonstrated the feasibility of catheterizing the human heart, but this achievement made little immediate impact. Indeed, the great advances of cardiac surgery by such men as Gross,[5] Blalock,[6] Crafoord,[7] and Brock[8] were actually well under way before the general application of intracardiac catheterization. In 1941 Cournand and Ranges[9] reapplied the Forssmann technique by "Catheterization of the Right Auricle in Man." Just over a decade later Facquet[10] in France and Bjork[11] in Sweden developed methods for catheterizing the left auricle. On the basis of these developments the cardiologist could not only experience the stimulation of precise physiologic verification of his clinical diagnoses but could also witness the surgical correction of increasing numbers of hitherto unapproachable malformations.

The interdependence of the surgical, clinical, and physiologic disciplines continues. Cardiac catheterization is not a substitute for, but rather an extension of clinical judgment, a judgment which must decide not only the proper choice of patients for study but also the proper methods for the resolution of the given problem. The purpose of this report is to illustrate how clinical evaluation permitted the selection of appropriate catheterization techniques for the study of Ebstein's anomaly, a congenital downward displacement of the tricuspid valve which, until the relatively recent past, was generally diagnosed at postmortem. The three patients to be described were chosen in order to emphasize the broad spectrum of severity of this unusual defect.

Illustrative Cases

Case 1. This patient was a 33-year-old acyanotic white woman with no cardiovascular history during childhood and young adult life. At the age of 21 years physical examination aroused suspicion of a cardiac abnormality. However, she subsequently experienced two uneventful pregnancies. During the year prior to

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admission she had been conscious of mild effort dyspnea. Subsequent cardiovascular evaluation elsewhere concluded that the auscultatory, electrocardiographic and radiologic signs were likely to be variations of normal.

The patient was a healthy acyanotic young woman in no distress. The blood pressure in both arms was 120/80, the cardiac rate 78 per minute, and the rhythm regular. The arterial pulse, the jugular venous pulse, and the lungs were normal. Palpation of the precordium revealed a gentle left ventricular apex tap just beyond the midclavicular line but no lift over the right ventricle. Auscultation at the apex and lower left sternal edge disclosed a split first heart sound, the second component of which (tricuspid) was impure and prolonged. There was an impure third heart sound which waxed during inspiration. At the pulmonary area the second heart sound was widely split. The asynchrony of semilunar valve closure increased with inspiration and decreased with expiration but never became single, an auscultatory feature of right bundle-branch block. The hematocrit was 38 per cent. The electrocardiogram showed complete right bundle-branch block. The X-ray film (figure 1A) showed slight but definite cardiomegaly with normal pulmonary vascularity.

Comment: In spite of the relatively asymptomatic and acyanotic state, the increased cardiac size, the absence of a right ventricular lift, the abnormal sound of tricuspid valve closure, the possibility of a right-sided third heart sound, the right bundle-branch block, and the radiologic contour of the heart suggested the diagnosis of a mild form of Ebstein's anomaly.

An electrode catheter was passed through the right atrium and right ventricle into the pulmonary artery. In contour and amplitude the pulsations in these chambers were normal. The cardiac output (Fick) was normal. The arterial oxygen saturation was 97 per cent. The descending limbs of the dye dilution curves (peripheral venous injection of indocyanine green with central withdrawal)[12] suggested either mild tricuspid insufficiency or a small left-to-right shunt at the atrial level, although the nitrous oxide indices were normal. As the electrode catheter was withdrawn through the right ventricular cavity it traversed an area which wrote a right atrial pressure pulse but a right ventricular intracavitary electrocardiogram. At this point the catheter tip was well to the left of the vertebral column (figure 1B). An intracardiac phonocardiogram recorded a right ventricular third heart sound and a marked delay in tricuspid valve closure.

The radiologic evidence that the tricuspid valve was well to the left of the vertebral column together with the detection of an area which was electrically right ventricle but mechanically right atrium confirmed the diagnosis of Ebstein's anomaly.

Case 2. A 38-year-old white woman with a murmur since birth was asymptomatic until the age of 20 years, when easy fatigability began. Four years prior to admis-

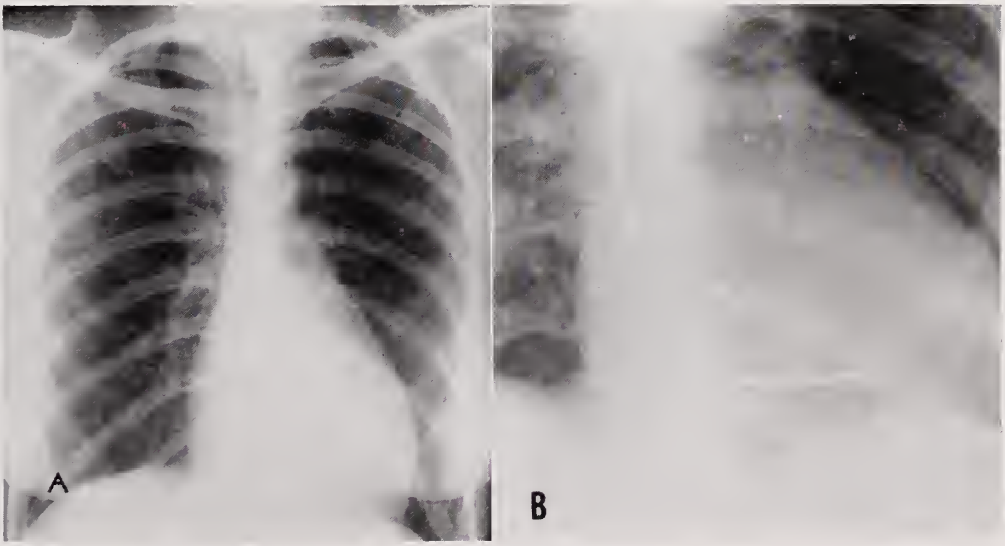

FIG. 1. A. Posteroanterior X-ray film of chest in case 1 illustrating how close to normal the heart can appear in the mild form of Ebstein's anomaly.

B. Spot film of the electrode catheter in place. The tip, lying far to the left of the vertebral column, registered a right ventricular intracardiac electrocardiogram but a right atrial pressure pulse, thus delineating the abnormal displacement of the tricuspid leaflets.

sion she experienced her first of several bouts of paroxysmal rapid heart action. A year later there was an uneventful pregnancy followed by marked postpartum edema controlled with digitalis, diuretics, and sodium restriction. Since then mild fatigue and dyspnea have been present, and in the more recent past atrial fibrillation has occurred. The patient was unable to date the onset of cyanosis.

Physical examination showed a somewhat obese white woman with thoracic scoliosis. The blood pressure in both arms was 130/80, the cardiac rate was 80 per minute, and the rhythm was irregular. There was mild cyanosis of the skin and mucous membranes but no peripheral edema. The arterial pulsations were normal. In the jugular venous pulse the A wave was absent and the V wave moderately elevated. The lungs were normal. Palpation of the precordium revealed a gentle left ventricular apex lift between the midclavicular and anterior axillary lines but no lift over the right ventricle. Auscultation at the lower left sternal edge disclosed an impure first heart sound, a grade III, long, superficial systolic murmur, and a scratchy third heart sound. The latter increased slightly during inspiration. At the pulmonary area there was wide splitting of the second heart sound with a normal intensity of the pulmonic component. The liver was one and a half fingerbreadths below the costal margin. The hematocrit was 53 per cent. The electrocardiogram showed atrial fibrillation with complete right bundle-branch block. X-ray films of the chest showed scoliosis with the convexity to the right. The pulmonary blood flow was normal. The heart was moderately enlarged with a contour difficult to assess because of the scoliosis.

The history of a murmur since birth, paroxysmal rapid heart action suggesting the Wolff-Parkinson-White syndrome (not evident in the electrocardiogram, however), cyanosis with normal pulmonary blood flow, clinical evidence of normal pulmonary arterial and right ventricular pressures, a tricuspid systolic murmur, and a scratchy third heart sound which by waxing during inspiration suggested a right-sided origin, complete right bundle-branch block, and radiologic evidence of cardiomegaly suggested Ebstein's anomaly of the tricuspid valve.

An electrode catheter was successively passed through the right atrium (V wave 9–12 mm. Hg, mean 7–8 mm. Hg), right ventricle (pressure 20/2–6 mm. Hg), and pulmonary artery (pressure 20/10 mm. Hg, mean 12 mm. Hg). The brachial arterial oxygen saturation was 88.2 per cent. The nitrous oxide indices in the pulmonary artery and right atrium were positive (45 and 40 per cent). Dye dilution curves (central injection of indocyanine green with brachial arterial withdrawal) revealed a normal appearance time with pulmonary arterial injection and an early appearance time with right atrial injection (right-to-left shunt at atrial level). As the catheter was pulled back through the right ventricle it traversed an area which inscribed a right atrial pressure pulse but a right ventricular intracavitary electrocardiogram. Because of the thoracic scoliosis the relation of this point to the vertebral column was difficult to interpret. Finally, with the use of a double-lumen catheter, injection of the indicator dye into the right ventricle while withdrawing from the right atrium revealed an immediate appearance of the indicator in the right atrial chamber.

The detection of an area which was electrically right ventricle but mechanically right atrium confirmed the presence of Ebstein's anomaly. Dilution curves and nitrous oxide tests detected a bidirectional shunt at the atrial level. Double lumen catheter dilution curves detected tricuspid incompetence.

Case 3. An 18-year-old white man gave a history of a murmur since birth. Neonatal cyanosis was present but subsequently disappeared, and the patient remained acyanotic until the age of 13 years. During the five years prior to admission both cyanosis and dyspnea became progressively worse and the patient presented himself in a markedly disabled state.

The patient was a well-developed, tall, slender, strikingly cyanotic man with great clubbing of the digits. The blood pressure was 120/70 in both arms. The rhythm was regular and the arterial pulsations normal. The lungs were normal. There was a large A wave in the jugular venous pulse, the interval between the A wave and the carotid pulse was prolonged, and the X descent was poorly defined. Palpation of the precordium disclosed a left ventricular apex tap in the sixth intercostal space near the anterior axillary line. There was no right ventricular lift, and the sound of pulmonary valve closure could not be felt. Auscultation at the apex revealed an atrial sound and a soft first heart sound. At the lower left sternal edge there was a grade II, scratchy, decrescendo systolic murmur which increased slightly with inspiration, and there was in addition a scratchy, brief, mid-diastolic murmur. In the second left intercostal space there was a grade III ejection systolic murmur and a second heart sound which was widely split with a soft second component. The hematocrit was 80 per cent with a red cell mass of 66.8 c.c. per Kg. The electrocardiogram (figure 2) showed first degree heart block, striking evidence of right atrial enlargement, and complete right bundle-branch block. An X-ray film (figure 3A) showed normal pulmonary vascularity and considerable cardiomegaly with a globular contour simulating left ventricular enlargement.

The history of a murmur since birth, neonatal cyanosis which waned but later reappeared, normal pulmonary blood flow, a large A wave with clinical evidence of relatively normal pulmonary arterial and right ventricular pressures, a left parasternal tricuspid systolic murmur, a scratchy mid-diastolic murmur in the same area, electrocardiographic evidence of right atrial enlargement, PR interval prolongation, complete right bundle-branch block, and radiologic evidence of great globular cardiomegaly suggested the diagnosis of Ebstein's anomaly.

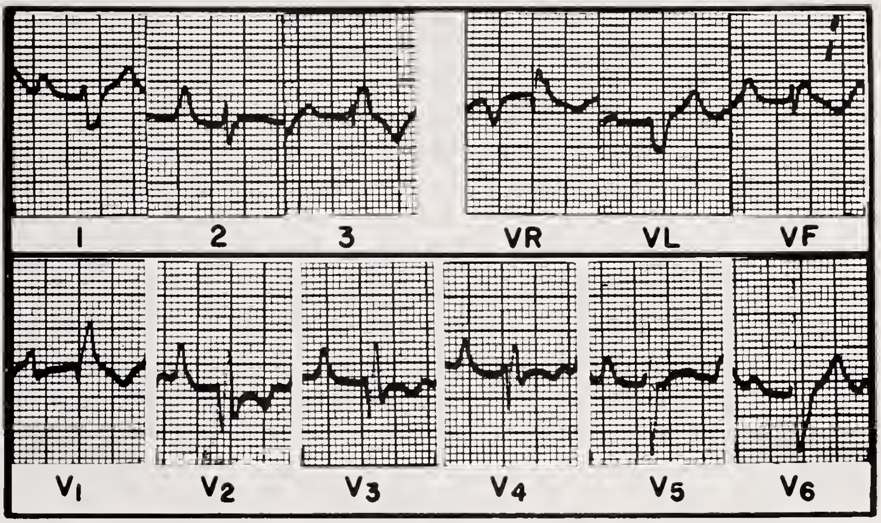

FIG. 2. Twelve-lead scalar electrocardiogram in case 3 illustrating the striking P waves of right atrial enlargement, the PR interval prolongation, the complete right bundle-branch block, and the relatively low voltage in precordial leads.

An electrode catheter was successively passed through the right atrium (A waves 8, V waves 12 mm. Hg with obliteration of the X descent), right ventricle (pressure 32/4 mm. Hg), and pulmonary artery (pressure 12/6 mm. Hg). The brachial arterial oxygen saturation was 79.7 per cent. In the right atrium the catheter formed a large loop approximately outlining the remarkable size of this chamber (figure 3B). As the catheter was pulled through the right ventricle it traversed an area which wrote a right atrial pressure pulse but a right ventricular intracavitary electrocardiogram (figure 4). At this point the catheter tip was well to the left of the vertebral column. Dye dilution curves (central injection of cardiogreen

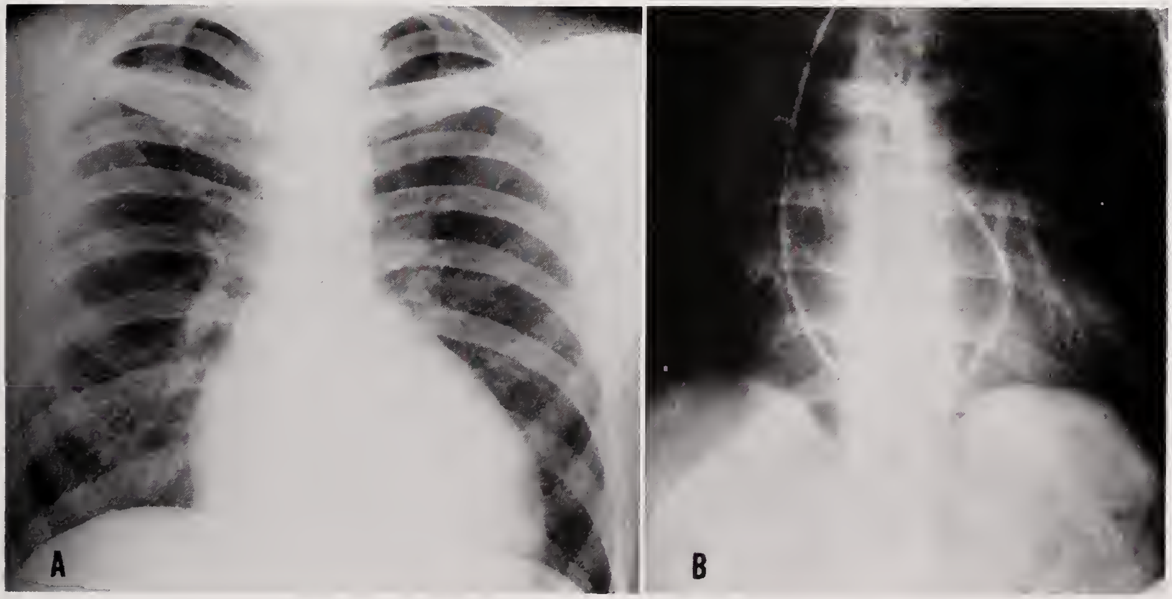

FIG. 3. A. Posteroanterior X-ray film of the chest in case 3 illustrating the substantial globular cardiomegaly simulating left ventricular enlargement, as well as the protruding contour of the large right atrium.

B. Spot film of the electrode catheter in place. The entire loop of catheter is within the right atrium, delineating the marked increase in size of this chamber.

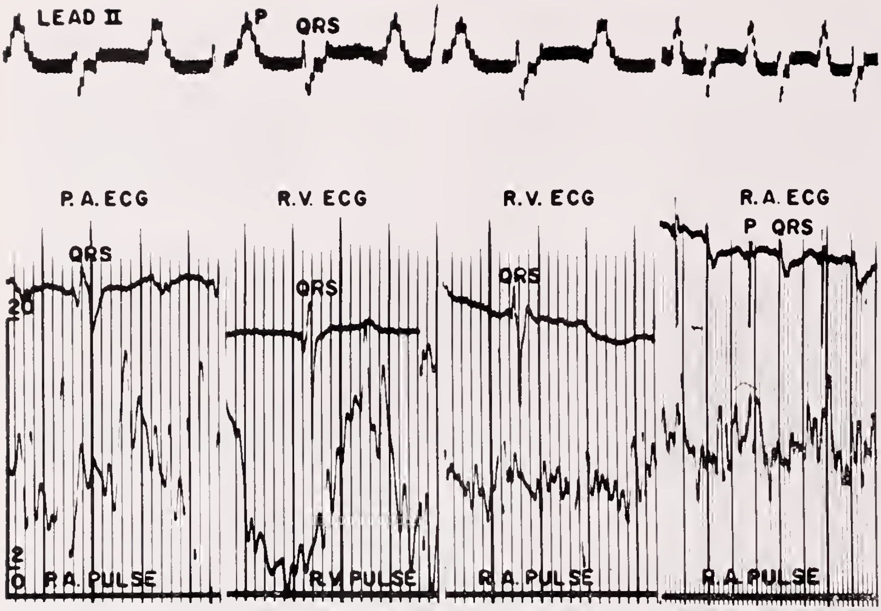

FIG. 4. Case 3. The tracings are, from top down, limb lead II of the scalar electrocardiogram; pulmonary arterial (P.A.), right ventricular (R.V.) and right atrial (R.A.) intracardiac electrocardiograms; and pulmonary arterial, right ventricular and right atrial pressure pulses. As the catheter was withdrawn from the right ventricular outflow tract (R.V. ECG, R.V. pulse) it traversed an area which inscribed an R.V. ECG, but an R.A. pressure pulse. This defined the "atrialized" portion of the right ventricle. Further withdrawal into the atrium proper caused no change in the atrial pressure pulse but caused a distinct change in the intracardiac ECG to a right atrial tracing.

with brachial arterial withdrawal) revealed a normal appearance time with pulmonary arterial injection but an early appearance time when the indicator was injected into the right atrium.

Conclusion: The localization of the tricuspid valve to the left of the vertebral column and the detection of an area which was mechanically right atrium but electrically right ventricle confirmed the diagnosis of Ebstein's anomaly. The right atrial pressure pulse and the dilution curves indicated the presence of tricuspid incompetence and a right-to-left shunt at the atrial level. The small but reproducible gradient across the right ventricular outflow tract was a point of additional interest.

DISCUSSION

Ebstein's anomaly occurs with equal frequency in the male and female and is estimated to constitute somewhat under 1 per cent of congenital cardiac defects.[13] Until the relatively recent past diagnoses were usually made at postmortem.[14] In 1958 recognition during life was still uncommon enough to warrant individual case reports.[15] Thus, although originally described almost a century ago,[16] less than 140 cases were to be found in the medical literature before 1959.[13] In the last few years, however, the number has rapidly increased. During this period "Ebstein's anomaly has been established as a clinical entity, largely as the result of information derived by cardiac catheterization."[17] This information has shed sufficient light on the historical, physical, electrocardiographic, and radiologic signs of the disorder to permit clinical recognition in the majority of instances.

The anomaly consists basically of a malformation of the tricuspid leaflets which are partially or wholly displaced downward from the anatomic annulus dividing the right atrium from the right ventricle.[13, 16] The valves may be mobile and apparently functional or they may be firmly fixed to the ventricular endocardium. The chordae tendineae may similarly vary from nearly normal to structures which are rudimentary and devoid of function. The right atrium invariably enlarges. The segment of right ventricle to which the displaced tricuspid leaflets are adherent ("atrialized" portion) is thin and occasionally aneurysmal. The size of the "functional" section of the right ventricle generally decreases as the "atrialized" section increases. The principal coexisting malformation is an incompetent foramen ovale or an atrial septal defect.

Clinical suspicion underlies the selection of appropriate techniques for physiologic documentation in the catheterization laboratory. This suspicion may begin with the history. Although generally believed to be a cyanotic malformation, this is by no means exclusively the case,[18] many patients presenting in an acyanotic state (case 1).[13, 18] Nor is the degree of cyanosis[13] or the heart size[19] necessarily correlated with the symptomatic severity which may range from very mild (case 1) to very marked (case 3). However, the presence of neonatal cyanosis which generally decreases or disappears but then recurs years later (case 3) is a sequence in the natural history that has been properly emphasized in Ebstein's anomaly.[13] Apparently the poorly functioning right ventricle cannot cope with the high pulmonary vascular resistance in the newborn period, and the subsequent rise in right atrial pressure reverses the shunt through the incompetent foramen ovale or atrial septal defect.[13] As the pulmonary vascular resistance falls, this deficit tends to be rectified with recession of the cyanosis. A second event of historical importance is the occurrence of paroxysmal rapid heart action (case 2) which suggests the presence of the Wolff-Parkinson-White syndrome. Sodi-Pallares[20] first commented on this interesting association in 1956. In the cyanotic congenital patient the presence of the WPW phenomenon, especially the electrocardiographic type simulating left axis deviation, strongly suggests the Ebstein malformation.[13]

The physical signs heighten clinical suspicion aroused in the history.[18] The A wave in the jugular venous pulse is often disproportionately prominent, indicating an increased force of right atrial contraction. The interval between the A wave and the carotid pulse is commonly increased (case 3), mechanically reflecting the delay between the P wave and QRS (prolonged PR interval). In spite of the prominent A wave the right ventricle is invariably quiet (cases 1, 2 and 3). Although a precordial pulsation over the infundibulum (third intercostal space, left sternal edge) may occasionally be felt, a prominent lift over the body of the right ventricle is inconsistent with the diagnosis of Ebstein's anomaly. The auscultatory and phonocardiographic signs add immeasurably to the clinical data.[13, 18] There is commonly wide splitting of the first and second heart sounds associated with complete right bundle-branch block (cases 1, 2 and 3). The second component of the split first heart sound (tricuspid) is often impure and prolonged (cases 1, 2 and 3) because of the abnormal physical properties of the malformed leaflets. In the mild disorder (case 1) there need be no murmur of tricuspid incompetence, although generally there is a rather coarse, superficial, lower left parasternal murmur which is usually pansystolic (case 2) and which may selectively increase during inspiration. With marked deterioration the "functional" right ventricle may be unable to support a sufficiently rapid rate of reversed flow throughout systole to maintain this pansystolic configuration, hence the murmur may on occasion be shorter (case 3). In addition, an ejection systolic murmur may be present (case 3), presumably across the right ventricular outflow tract. This may be associated with a small but reproducible gradient, as was found in case 3. Others have commented upon the mild outflow tract stenosis in Ebstein's anomaly without necessarily finding anatomic obstruction at postmortem.[13] Auscultation in diastole is of further importance. The frequency of atrial sounds (case 3) may in part be a reflection of the PR interval prolongation, but the sound commonly has the duration of a short presystolic murmur. Pathologic third heart sounds are even commoner (cases 1, 2 and 3) and are probably associated with both abnormal physical properties of the right ventricle and with the accelerated atrioventricular flow rates due to tricuspid incompetence. These sounds may also have the duration of short mid-diastolic murmurs, may increase on inspiration, and may be superficial and scratchy (cases 2 and 3).

The electrocardiogram (figure 2) usually reveals complete right bundle-branch block[13] (cases 1, 2 and 3), evidence of right atrial enlargement (case 3), conspicuous absence of right ventricular hypertrophy (low voltage in the right precordial leads), and PR interval prolongation. The frequency of the Wolff-Parkinson-White electrocardiogram is to be reëmphasized.[13, 20] Although this was suspected historically in case 2, it was not evident on the electrocardiogram. There is a suggestion of a correlation between the height of the peaked right atrial P wave and the severity of the symptomatic state,[13] a supposition consistent with the findings in case 3.

In the X-ray films[13, 18] the pulmonary vasculature is normal to decreased (cases 1, 2 and 3). The heart varies from normal[13, 18] or close to normal with a mild anomaly (case 1) to considerable globular enlargement with the more advanced malformation (case 3). In gross cardiomegaly the silhouette may assume a box-like contour,[13] the right atrium protruding on the right side and the rotated right ventricular infundibulum protruding on the left.

The physiologic documentation of the Ebstein anomaly depends not only upon the detection of tricuspid incompetence but also upon the documentation of the abnormal location of the recessed tricuspid leaflets. The laboratory procedures commonly employed for the confirmation of this diagnosis are frequently inconclusive. The presence of a large right atrium (figure 3-B) and a reversed shunt through an atrial septal defect (cases 2 and 3) are helpful but not diagnostic. The presence of a right atrial pressure pulse recorded to the left of the vertebral column (figure 1-B) (cases 1, 2 and 3) suggests displacement of the tricuspid valve and adds materially to the evidence but need not be conclusive. With the advent of intracardiac electrocardiography a definitive diagnostic procedure became available based on the original observations of Sodi-Pallares.[21] Beneath the downwardly displaced tricuspid leaflets, the cardiac muscle remains right ventricular, and if the intracardiac electrode is placed over this segment, it records right ventricular intracavitary potentials.[14, 19, 20] Mechanically, however, this segment of muscle performs as part of the right atrium, hence the pressure pulse at this point is atrial in contour (figure 4). This region does, indeed, lie well to the left of the vertebral column (figure 1-B). Discrete detection of this area, so vital to the diagnosis, is determined in the following fashion. The tip of the electrode catheter is placed in the pulmonary artery and gently pulled across the pulmonary valve so that it lies in the right ventricular outflow tract. Simultaneous scalar and intracardiac electrocardiograms with intracardiac pressure pulses are recorded (figure 4). The contour of the pulse at this point is right ventricular, and the contour of the intracavitary electrocardiogram is also right ventricular (large, negative deflection synchronous with the scalar QRS, but with absence of atrial potentials) (figure 4). As the catheter is withdrawn to a point to the left of the vertebral column (figure 1-B) the pressure changes abruptly to right atrial but the intracardiac electrocardiogram remains right ventricular in type (figure 4). This is the "atrialized" portion of the right ventricle, and

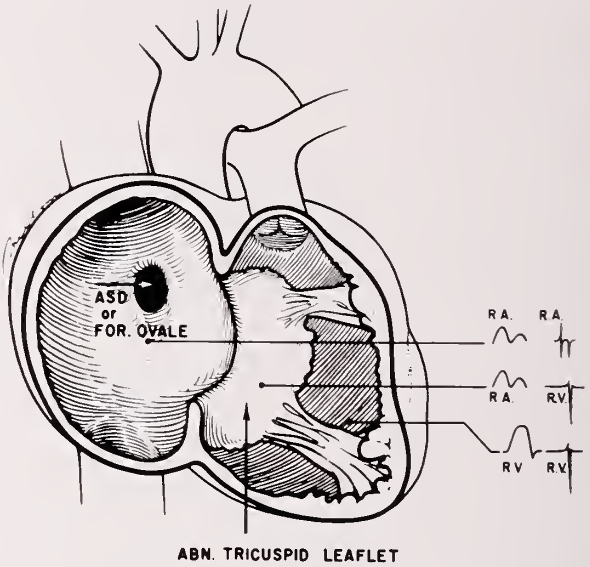

Fig. 5. Schematic illustration of the locations and contours of the characteristic intracardiac electrocardiograms and pressure pulses in Ebstein's anomaly. Note that over the abnormal, recessed tricuspid leaflet the tracings define a segment of myocardium which is electrically ventricular but mechanically atrial. Attention is also called to the frequently associated incompetent foramen ovale or atrial septal defect.

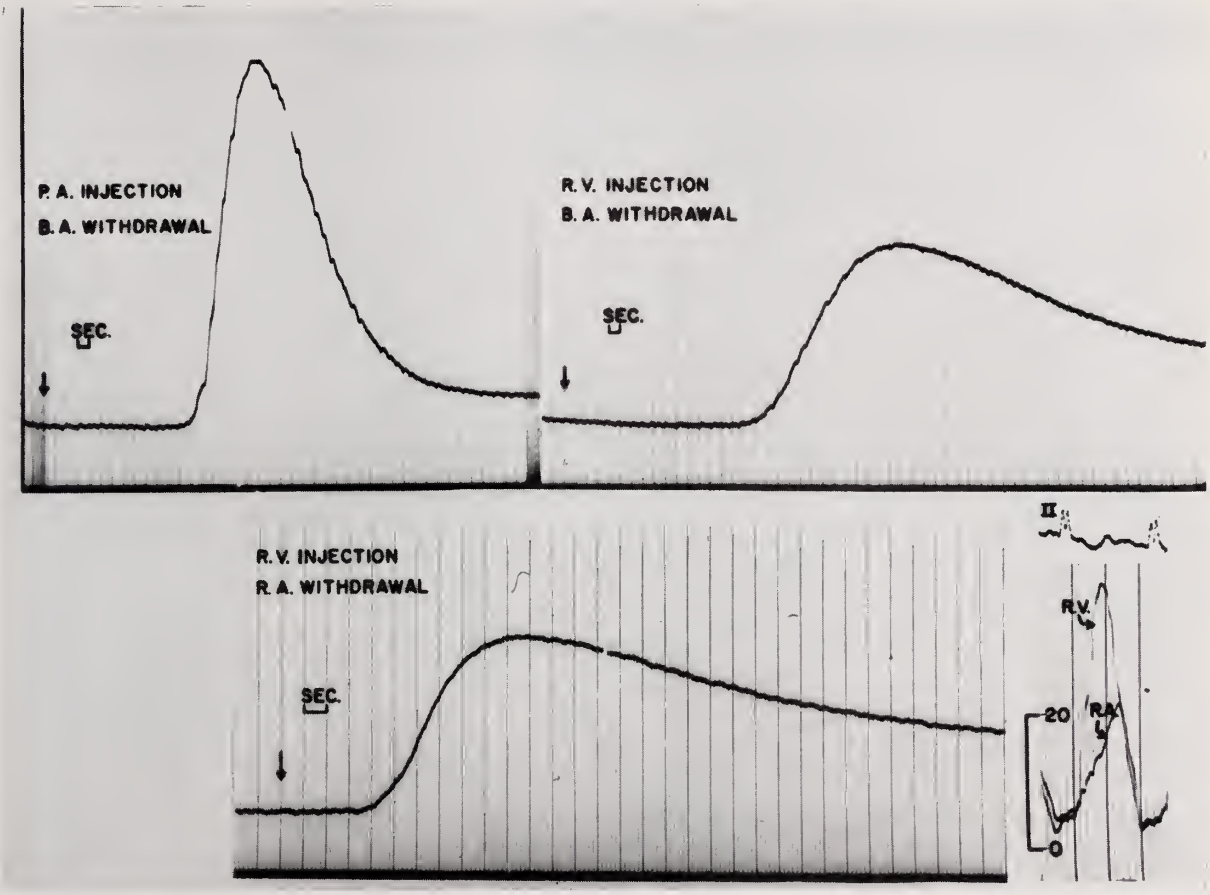

FIG. 6. Dye dilution method for the detection of tricuspid incompetence. When the indicator substance was injected (upper left) into the pulmonary artery (P.A.) while constantly withdrawing from the brachial artery (B.A.) a relatively normal primary dilution curve was inscribed. Identical technique with R.V. injection (upper right) resulted in an altered curve. The peak concentration was lower, since right ventricular contraction discharged only a portion of indicator into the pulmonary artery, the remainder entering the right atrium across the incompetent tricuspid valve. The descending limb of the dilution curve was shallow and prolonged because dye was cleared slowly from the R.V. due to constant right ventriculo-right atrial reflux. Finally (lower tracing), with the use of a double lumen catheter (see R.A.-R.V. pulses lower right), injection of indicator into right ventricle while constantly withdrawing from right atrium resulted in immediate appearance of the indicator in the atrium with delayed clearance from that chamber.

herein lies the definitive diagnostic data—the localization of an area which is mechanically atrial but electrically ventricular.[14, 19, 21] Further withdrawal of the catheter results in no change in the right atrial pressure pulse, but, just proximal to the true tricuspid annulus, the intracardiac electrocardiogram abruptly changes to right atrial (large P waves which may be upright, biphasic, or inverted, with some decline in the magnitude of the right ventricular potentials) (figure 4). The sequential changes in intracavitary electrical and mechanical activity are schematically illustrated in figure 5.

Compare these tracings with those of a patient who presented with tricuspid incompetence of unknown etiology but without Ebstein's anomaly (figures 6 and 7). With the catheter tip in the pulmonary artery, injection of indicator dye wrote a relatively normal dilution curve with brachial arterial withdrawal (figure 6, upper left).

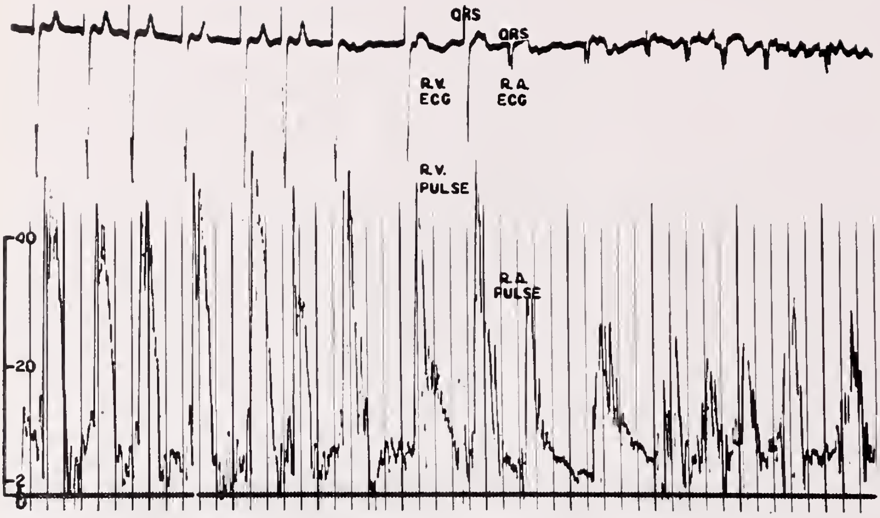

Fig. 7. Intracardiac ECG's and pressure pulses in the patient with tricuspid incompetence (see figure 6) but without Ebstein's anomaly. Note that within one beat the change from right ventricular to right atrial pressure was accompanied by an immediate parallel change in the intracardiac ECG from an R.V. to an R.A. pattern. It is apparent from these tracings that, as the electrode catheter was withdrawn, it did not traverse a segment of myocardium which was mechanically atrial but electrically ventricular.

However, with injection into the right ventricle the height of the similarly recorded curve decreased and the descending limb was markedly prolonged due to constant reflux of indicator from right ventricle into right atrium (figure 6, upper right). Finally, with injection into the right ventricle and with withdrawal from the right atrium through a double lumen catheter[22] the tricuspid incompetence resulted in an immediate appearance of the indicator substance in the right atrium (figure 6, lower). The electrode catheter was then withdrawn from the right ventricular outflow tract to the midportion of the right atrium (figure 7). The intracavitary electrocardiogram remained right ventricular in type as long as the pressure pulse was right ventricular in contour. Then, within one beat both the pressure pulse and the intracardiac electrocardiogram became right atrial. This patient's tricuspid incompetence, documented by the dilution curves (figure 6) was not due to the Ebstein's anomaly because the intracardiac electrocardiogram detected no area which was mechanically atrial and electrically ventricular (figure 7).

Summary

The interdependence between clinical judgment and the selection of techniques for intracardiac catheterization is emphasized. Three cases with Ebstein's anomaly of the tricuspid valve have been presented to illustrate this interdependence. It can surely be said that "Hemodynamic studies have provided a means for validating clinical signs, and a sign thus proven to be reliable assumes a new stature."[23]

Acknowledgment: I am grateful to Dr. W. Proctor Harvey and to Dr. Charles A. Hufnagel for kindly allowing me to study these cases and to include them in this paper.

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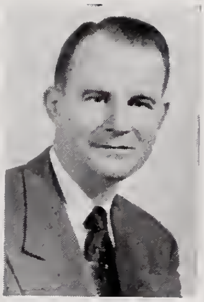
PRESIDENT'S PAGE

IN FOCUS ON "TED"



It is common knowledge to our membership that the Medical Annals has for quite some time past occupied a position among the top state medical publications in this country. Much of the credit for this lofty standing must go to our retiring Executive Director and Secretary, Mr. Theodore Wiprud, who has also been the Managing Editor of the Annals for the past 24 years. His regular contribution, "In and Out of Focus" is probably the most widely read column of its kind in any of the State Medical Journals. Ted's enormous circle of friends in the medical world, his keen insight into and intelligent interpretation of the constant changes in medical practice, and his gifted hand in journalism have all been combined in the Observer to keep us informed on medical news and socioeconomic problems.

Ted's stature among his friends in the field of journalism was highlighted at the annual dinner given for representatives of the news services on April 17 when a precedent was established by their presentation to him of a magnificent silver plate embossed with a Viking Ship in remembrance of his Scandinavian descent.

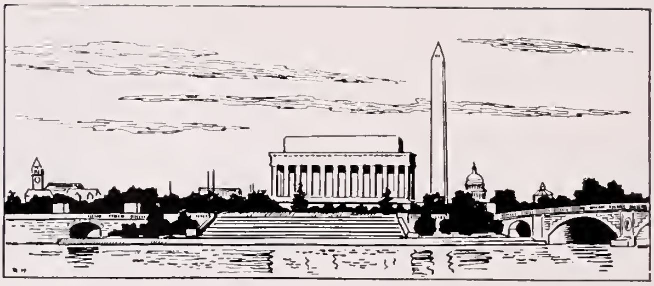
There is one aspect of Ted's daily routine that is probably known only to those of us who by the nature of our duties spend some time in his office. He is never too busy to give counsel and information, at any time, to any member of our Society who requests it. During the past six months, on many occasions I have witnessed with admiration his wise counselling by telephone and in person on a wide variety of problems, both personal and professional. This, in part, I am sure, accounts for some of the inscriptions on the photographs of the last 23 Past Presidents that adorn his office walls.

In our Society all decisions relating to policy are made by the Executive Board. As Secretary of this Board, Ted's wise counsel and accurate recording of the minutes have been invaluable.

It is in the field of public relations that Ted's value to our Society is probably least known to our membership at large. In this capacity he has been on the banquet circuit for a long time. He has been our ambassador before many civic, business, and professional organizations in this Metropolitan Area, conducting himself with wisdom and dignity, to the lasting credit of our Society.

Speaking for the entire membership of the Medical Society of the District of Columbia, I wish for him and Mrs. Wiprud a long, healthy and happy retirement. He has been many things to many of us—journalist, public relations man, counsellor and friend, but the one we hold dearest of them all is friend.

J Spencer Dryden



EDITORIALS

Poliomyelitis Control

On March 27, 1962, the Public Health Service announced the licensing of Type III oral poliomyelitis vaccine. Revised recommendations on the use of poliomyelitis vaccine in 1962 were also issued by the Surgeon General's Advisory Committee on Poliomyelitis Control on February 17, 1962. This included guidelines for community-wide programs.

Previous recommendations and guidelines had been adopted by the House of Delegates of the American Medical Association at its session in New York City in June, 1961. These dealt with the participation of physicians in community polio virus vaccine programs.

Suggestions from Subcommittee One, Surgeon General's Advisory Committee on Poliomyelitis Control, concerning organization of community-wide programs emphasized the importance of mass immunization campaigns with oral polio virus vaccine to be conducted during the winter and spring months (November-May). The summer months are less desirable because

1. The higher incidence of other enteric viruses may reduce the effectiveness of the oral vaccines.
2. Schools are closed and many people on vacation.
3. Sporadic cases of poliomyelitis or polio-like diseases may occur and arouse public concern.

The American Academy of Pediatrics, through its Committee on Control of Infectious Diseases, reviewed these recommendations and gave its approval. The Committee also suggested guidelines, stressing certain aspects for the guidance of physicians, as follows:

"All authorities agree that the oral vaccine is best used on a cummunity-wide basis, and the American Academy of Pediatrics is in full agreement. All pediatricians, in coöperation with county medical societies and local health departments, are urged to take an active part in organizing a community-wide program for their own locality at the proper time; and, in the meantime, to continue Salk programs. *Individual use of live oral polio vaccine is not recommended.*"

The Washington Metropolitan Health Officers' Association, which encompasses the District of Columbia, the counties of Montgomery, Prince Georges, Arlington, and Fairfax, and the City of Alexandria, met on April 10, 1962. Health officers present recommended that Salk polio vaccine be used for the 1962 polio season, and that as soon as proper clearances are obtained, there should be coördinated community planning for a Metropolitan Area-wide mass oral vaccination program.

An area-wide program is deemed highly desirable because of the close intermingling of the population, the overlapping of physicians, covering of the various political jurisdictions, and the common news media. It was hoped that the oral program could be conducted during the period November-May.

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

On April 11, 1962 the Committee on Poliomyelitis of the District of Columbia Medical Society met with members of the D. C. Department of Public Health, and after discussion and deliberation the following recommendations were presented to the Executive Board and approved on April 23, 1962:

1. That the Salk polio vaccine be used for the polio prevention program for the 1962 polio season.

2. That the D. C. Medical Society and the D. C. Department of Public Health immediately take the lead to develop coördinated community-planning for a community-wide mass oral polio vaccination program for the 1963 polio season. It is desirable that the vaccination program be conducted between November 1962 and May 1963.

3. That the detail planning for the community-wide mass oral polio vaccination program should be in accordance with the general guidelines recommended in the American Medical Association's House of Delegates Report and the general guidelines recommended by the Surgeon General's Advisory Committee on Poliomyelitis Control.

This type of vaccination program is a challenge to the physicians of the community to coöoperate with the Health Department in a crash program toward the elimination of poliomyelitis. An excellent example of the possible success for such a program is the one conducted in Maricopa County, Arizona. The program was sponsored by the American Academy of Pediatrics and the County Medical Society. Ninety per cent of the population and 95 per cent of the children were vaccinated out of a population of 650,000.

It is urged that all physicians in the Washington Metropolitan Area lend their full support to this program in an effort to protect an equally large percentage of the population.

William S. Anderson, M.D.
Chairman, Committee on Poliomyelitis

Neurotic Marriage*

Marriages in this country are usually not arranged; we make our own choices and for our own reasons. Some persons marry for security; for prestige or social gain; because it is time to marry, to be grown-up; for love, as it were; or to have children and a family. There are other conscious reasons, acceptable to both the individual and to society. But if unknowingly people marry for unconscious neurotic reasons, this is an invitation to an unsuccessful marriage.

For example, there may be childhood desires which are not conscious to us, long-hidden, disguised, which influence the marriage choice. Some men marry women, not as wives but as mothers; some women seek fathers in their mates, rather than husbands. Some persons seek mates to be both father and mother, to be the decision-making, omnipotent parents of early childhood . . . and then there is trouble indeed.

The point is that a marriage choice made for neurotic reasons almost foredooms the marriage. This does not mean what someone outside the marriage may think of the choice of partner, but rather there must be an honest answer to the question, "Why am I going into marriage, and why am I choosing this mate?" If the partners are mature as to what they expect of their marriage, then the chance of taking neurotic factors into the marriage are reduced.

There is some pain present in every marriage. But when the pain is so constant and pervading that it outweighs the pleasure and satisfaction which we can expect in marriage, there is a neurotic condition present. And when the people involved cannot come to a reasonable solution of their problem, by discussing what it is that disturbs their marriage, then all the more is the marriage a neurotic one.

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* Summary of a lecture, one of a series prepared by the Department of Psychiatry of George Washington University School of Medicine concerning the marital problems commonly encountered in the practice of medicine.

MR. ZUPAN HONORED BY MEDICAL SOCIETY

MR. LAWRENCE A. ZUPAN (right) is presented with an illuminated scroll by DR. J. SPENCER DRYDEN, President of the Society, in appreciation for "his loyal service from September 1949 to May 1962. As Manager of the MEDICAL BUREAU, his interest and capable administration have improved the public relations of the Medical Society. The spirit of teamwork he displayed in his day-to-day duties as Assistant Secretary has earned him lasting friendships among the members of the staff and the medical profession."

Sometimes an incipient neurotic marriage will seem to go along rather well, but it is so precarious an arrangement that any new factor introduced into the marriage will be disruptive. This is especially true if children are born, for then the neurotic partner may find the new situation intolerable. The child becomes a competitor. It was difficult to have adjusted to the marriage in the first place; now it may be almost impossible.

The neurotic factors brought into marriage by adults are likely to have had their origins in childhood, through experiences and situations long forgotten by the persons affected. A domineering father who makes all decisions can develop in his son the desire to avoid adult responsibility, and the son might well seek a wife who will make all family decisions. Should he find such a wife, his marriage may falter but not necessarily fail, but a decision-avoiding wife and a decision-avoiding husband can create marriage chaos, each waiting for the other to take over.

Forces in childhood which can lead to adult difficulties in marriage would include sibling rivalry or favoritism, too demanding or, conversely, too indulgent parents, infantile fantasies and desires which should have been outgrown, parental discord and divorce, uncertain parental discipline, over-protectiveness and a host of others.

LEON FERBER, M.D.
Assistant Clinical Professor
of Psychiatry, George Washington
University School of Medicine

Mr. Zupan Accepts New Post

Mr. Lawrence A. Zupan, Assistant Secretary of the Medical Society and Manager of MEDICAL BUREAU, the Society's telephone exchange, since 1949, submitted his resignation on April 25 to become effective June 1, 1962.

Many members of the Society will learn of his departure with much regret. He has not only impressed them with his capabilities, but his friendliness has won their respect and affection. If this be true of a number of members, it is doubly true of the Secretary of the Society. He has the highest regard for Mr. Zupan, not only as an efficient assistant but as a loyal co-worker. He wishes for him the success he richly deserves in his new position as Administrator of the Washington Clinic. In his opinion, the Clinic is very fortunate to obtain his services.

Mr. Zupan was the guest of the Society at a dinner given for him at Pierre's Restaurant on the evening of May 15. Present, aside from the staff, were Mrs. Zupan and Mrs. Wiprud. On hand, also, were Dr. J. Spencer Dryden, President of the Medical Society, who presented Mr. Zupan with a scroll setting forth the appreciation of the Society for his services, and Dr. Herbert P. Ramsey, who had words of praise for the guest of honor.

THEODORE WIPRUD

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

IN & OUT OF FOCUS

To the Observer

Editor's note: The following tributes to Theodore Wiprud, "The Observer" of the Medical Annals, were inspired by a communication from Dr. Julian P. Price, of Florene, South Carolina, formerly Trustee of the American Medical Association; Editor of the *Journal of the South Carolina Medical Association*, 1941–1953; and a long-time friend of "The Observer."

To the Observer, who will fully understand:

1. *In Focus:* You and your Contributor, Mr. Observer, have truly been contemporaries in the medical scene of Washington. Each has given freely and pleasurably to the other, and there are no debts to be tallied on either side.

The giving had no beginning and will have no end. It is to be wondered how this can be, because your Contributor is one of many while you, Mr. Observer, are only one.

2. *Out of Focus:* Hoghead, hogshead, surcingle, cinch. . . Wabash, Reading, pole socket, stem.

China town, taxi meters, Top of the Mark, snow on the hills of San Francisco.

A young man who whistled march tunes before breakfast . . . wind and rain and angry surf . . . a crowded convertible.

Brown Palace, Palace, Waldorf, Biltmore . . . Mayflower, Statler, Statler, Statler.

A Norse at the symphony, the cutting of the fog, Christmas lights, Canli's.

Christmas tree ornaments, Midnight Mass . . . St. John's, St. Bartholomew's, All Saints, St. Louis Cathedral.

"We've had enough to eat!"

3. *In and Out of Focus:* Yours is the title, yours previously was the writing. Now it has been my turn. Thank you for letting me be with you.

Hugh H. Hussey, M.D.
Chairman, Board of Trustees,
American Medical Association

★

I salute Ted on the occasion of his retirement and congratulate him on a job well done.

He has experienced an exceptionally effective career; and I am sure he has had satisfaction in his many accomplishments.

Persons knowledgeable in the field of medical administration recognize him as the "Dean" and "Brain" of the group. We shall miss him in his traditional role; but we venture to predict that he will continue to be busily occupied in performing some useful and valuable assignments.

My best wishes go with him in the years ahead.

("Bing") F. J. L. Blasingame, M.D.
Executive Vice President, American
Medical Association

LOOKING BACK on some 50 years of association with organized medicine, many names and personalities loom large in the landscape. Almost from the first time I saw Ted Wiprud in action at meetings of the secretaries and editors of state medical journals and in meetings of the American Medical Association, his personality, his geniality, and his courage in expressing his convictions made him "a man of distinction."

The years have been many since that day and the marks of maturity are apparent. Nevertheless, those qualities which made him exceptional still mark him as a man among men. His loyalty to his beliefs and his ideals has been an outstanding feature of his career. Among the many, many non-physicians who have given great service to American medicine the name of Theodore Wiprud will long be remembered.

MORRIS FISHBEIN, M.D.
Formerly Editor, The Journal of the American Medical Association

★

THIS IS A BRIEF NOTE of congratulations upon Ted Wiprud's retirement. I know that this retirement will not be total, and that he will still have a number of activities.

He has rendered an outstanding service not only to the District of Columbia Medical Society, but to American medicine as a whole. I have appreciated knowing him for more years than I care to state, and our relationship has always been pleasant.

He is truly the Dean of Medical Societies' Secretaries, and I hope he will accept my warmest regards and appreciation for an abiding friendship.

GEORGE F. LULL, M.D.
Formerly Secretary and General Manager, American Medical Association

★

WHEN TED WIPRUD TOLD ME of his plans to retire as Secretary and Executive Director of the Medical Society of the District of Columbia, he informed me it also meant retirement as the Managing Editor of the MEDICAL ANNALS. Although realizing his decision was prompted by the wish for more leisure for other endeavors, I regretted his departure from the journal work.

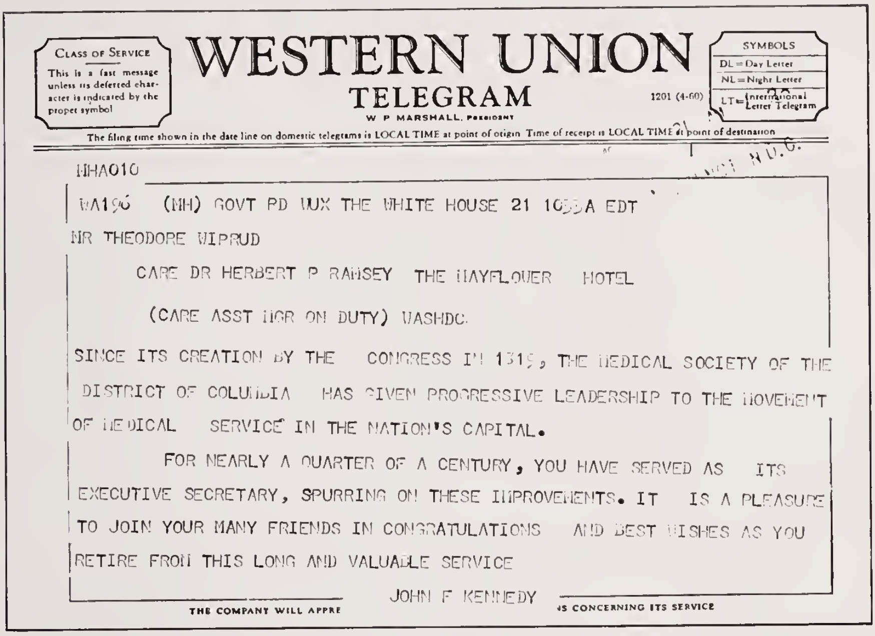
In 1945 when I became Director of the Bureau (then known as the Coöperative Medical Advertising Bureau), it was not necessary to make the acquaintance of Theodore Wiprud as the Managing Editor of a member state journal—Ted was already an old friend through our mutual association with the AMA. Since that time we have observed many instances of his loyalty to the District Society and to the ANNALS as well as to the cause of scientific medicine. At the time our Bureau was separated from the American Medical Association (January 1956) Ted was among the first to telephone us to assure the Bureau of his coöperation and assistance where possible.

The By-laws of the State Medical Journal Advertising Bureau, Inc. were amended in 1958 to permit a layman, representing a member state journal, to serve as one of the five members of the Advisory Committee and of the Board of Directors. When the annual poll of journals was made that year, Ted Wiprud was chosen by an overwhelming majority as the candidate for the Advisory Committee and was subsequently selected for a five-year term, beginning January 1, 1959—a post he now holds. At the first meeting of the shareholders, following the change, Ted was elected as the one lay member of the Board of Directors. Both of these "firsts" are certainly testimony of the regard and affection in which he is held by his colleagues in the State Journal Group.

Following the 1961 State Journal Conference last October many complimentary letters and calls were received in our office regarding the value and excellence of the seminar. As one of the participants, you will agree, I am sure, that much of the success of the meeting was due to the fine programming and direction of Ted Wiprud, who was Chairman of the 1961 Conference.

Ted has always been most accessible when it has been necessary to telephone his office—yet he has never been a "yes" man, being quick to voice his dissent if he considered a proposal unwise, but ready to listen to the opposing argument and to reverse his decision if warranted. I know I speak for the Board of Directors and my associates in the Bureau when I express our regrets at his retirement, but, at the same time, extend our heartiest wishes to him and to Mrs. Wiprud for good fortune and happiness in the future.

Alfred J. Jackson
President, State Medical Journal Advertising Bureau, Inc.



WESTERN UNION
TELEGRAM
W P MARSHALL, PRESIDENT

CLASS OF SERVICE
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SYMBOLS
DL = Day Letter
NL = Night Letter
LT = International Letter Telegram

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MR THEODORE WIPRUD

CARE DR HERBERT P RAMSEY THE MAYFLOWER HOTEL

(CARE ASST MGR ON DUTY) WASHDC

SINCE ITS CREATION BY THE CONGRESS IN 1819, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA HAS GIVEN PROGRESSIVE LEADERSHIP TO THE MOVEMENT OF MEDICAL SERVICE IN THE NATION'S CAPITAL.

FOR NEARLY A QUARTER OF A CENTURY, YOU HAVE SERVED AS ITS EXECUTIVE SECRETARY, SPURRING ON THESE IMPROVEMENTS. IT IS A PLEASURE TO JOIN YOUR MANY FRIENDS IN CONGRATULATIONS AND BEST WISHES AS YOU RETIRE FROM THIS LONG AND VALUABLE SERVICE

JOHN F KENNEDY

THE COMPANY WILL APPRE … IS CONCERNING ITS SERVICE

CONGRATULATORY TELEGRAM FROM THE PRESIDENT

President Kennedy sends his best wishes and congratulations to Mr. Wiprud upon his retirement as Executive Director and Secretary of the Medical Society. This telegram did not reach Dr. Ramsey, in whose care it was dispatched, until May 21, and therefore was not read at the Testimonial Dinner as planned.

★

GOOD GOING, TED!

When the last committee is finished
And the minutes approved, laid aside,
And the longest winded have faded
And his sharpest critic has died,
Ted shall rest, and faith he shall need it—
Relax for a weekend or two
'Til his wife and family take over
And set him to work anew.

As the going was good he'll be happy;
He'll sit in his favorite chair
And listen to broadcast or ballgame
And not give a damn nor a care.
He shall loaf, he shall fish, he shall travel,
He shall do no work, but just stall
And answer no letters, no call.
And the young hot-shots will take over
For they can carry the ball;
They can run, they can block, they can tackle,
And never get tired at all!

And some day, down through the ages,
When the brethren meet in the sky
To strike one more blow for freedom
As they raise their glasses on high,
This toast will break the sound barrier:
"Let's go—it's full speed ahead;
Keep pitchin' and battlin' and workin';
Good goin'—good luck to you, Ted."

Tom Hendricks
Assistant to Executive Vice President, American Medical Association

★

Some 20 years ago I met Ted Wiprud for the first time while attending a Medical Secretaries-Editors Conference in Chicago. Since then I have seen him under various conditions—as the presiding officer of a formal meeting, as a fellow member of a committee, at social gatherings, across the breakfast table in a hotel, as a guest in my home, and yes, even as a roommate at a convention.

Ted is the type individual you like from the start. His genial smile, his sense of humor, and his gracious manner make him a favorite in any gathering. He is a man of integrity and high ideals, a man who can plan and then put his planning into action, a man who does not shun work. The better you know him, the more you come to respect him, to admire him, and finally to love him as a friend.

Perhaps Ted's greatest attribute in his work is his ability to accomplish much while staying in the background. Roger Lee once said that "a good secretary is one who can walk the thin line that separates efficiency from officiousness." This Ted has done and done well.

As Ted leaves the active arena of medical affairs and assumes the less arduous but no less important position of elder statesman, we wish him well. May the next two decades be as happy and as profitable for him as the last five, albeit not so busy. May his spare hours be pleasurably spent in the cultivation of his hobbies, the writing of his memoirs, and the enjoyment of his friends old and new.

JULIAN P. PRICE, M.D.
Formerly Trustee, American Medical Association

★

BEFORE TED CLEARS HIS DESK, puts aside his editorial pen, and completes his responsibilities, I want to express for our School of Medicine, and personally, deep appreciation for the wonderful work he has done throughout his long years of faithful service with the Medical Society of the District of Columbia.

Ted has given us real leadership and has remained in focus with progress in medicine and with his colleagues.

He has the unusual ability to know when to say "let's go" and when to advise "status quo." In addition to unusual judgment and absolute fairness, which everyone admires as fundamental characteristics of Ted Wiprud, I have appreciated his residuals from Wisconsin, his red ties, and the ease with which we always communicate. I feel deeply honored to be counted among his wealth of friends in the Washington community.

My warm regards and abiding best wishes are with Mrs. Wiprud and Ted for continued health and happiness in the years ahead.

JOHN PARKS, M.D.
Dean, The George Washington University School of Medicine

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IT IS AND ALWAYS WILL BE a matter of real regret to me that I cannot be present in person at the Testimonial Dinner to be held in honor of Ted Wiprud on May 19. I do hope, however, that all of the officers of the District of Columbia Medical Society, and particularly Ted, will realize that I will be thinking about him when that evening arrives.

Ted and I have been colleagues for 33 years. As one of the very few state medical society executives who started in this kind of career in the late 1920's, I think I can speak with the authority of experience in saying that Ted has not only possessed but has always richly earned the respect of every person well versed in the administrative work of organized medicine.

There may have been a few occasions within those years when some one or another of us might not entirely agree with Ted's particular method of approach to solution of a given administrative problem, but I have never known a single person who could or would question his motives, his integrity, or his goals. He has always been a dedicated medical executive if I ever knew one—dedicated entirely to the good of medicine and the welfare of medicine's public.

Ted has well earned his retirement and rest, but certainly all of us in this line of endeavor will greatly miss his continual participation, his wise counsel, and his infinite capacity for real friendship.

Please extend to Ted and his family my sincere and affectionate best wishes for all the years to come.

HARVEY T. SETHMAN
Executive Secretary, Colorado Medical Society

★

THE YEAR 1938 was a wonderful year in many ways, and by some standards it was perhaps the beginning of a new era in American Medicine. The American Medical Association met that year in San Francisco under the leadership of Dr. J. H. J. Upham, and some 6,000 were reported to have attended. Dr. Upham and his successor, Dr. Irvin Abell, and Dr. W. W. Bauer of the AMA staff gave national radio talks, little dreaming that a few years hence television would be an accepted medium of communication.

The *Journal of the AMA* editorialized that "contrary to the expectations of agitators who endeavor to incite disharmony and revolt among the physicians who represent the medical profession in the House of Delegates, the House displayed a singleness of purpose and soundness of attitude in its concern with the important questions which came before it."

In Washington that year Dr. W. J. Mallory was President of the District Medical Society, and both the Society and the American Medical Association were concerned with actions of the Department of Justice relative to its inquiries as to whether they had been acting in restraint of trade in their attempts to expose the dangers which they thought such organizations as the Group Health Association might engender.

Also in Washington Josephine Roche sounded the call for a National Health Conference in July of 1938, and the names that were to become so familiar to American physicians appeared in the planning groups—Altmeyer, I. S. Falk, and others.

The Wagner Acts were not far in the distance, and American Medicine was beginning to feel the pressures of the Federal Government in the field of medical and health care through the use of tax funds.

Into this scene Ted Wiprud, already a successful medical society executive in Milwaukee County, was to bring his brilliant talents as an executive and authority on medical economic matters, to serve as the first full-time Secretary and Executive Director of the Medical Society of the District of Columbia. His accomplishments for the succeeding 24 years need no recital by this writer; they are too well known to physicians in all our states.

And on the very day that Ted Wiprud was assuming his official duties as executive officer of the District Medical Society, far to the north this writer was starting his first day as the first full-time executive secretary of a medical organization in the New England area. The Providence Medical Association, too, sensed the era ahead, and I became its executive officer, and the Executive Secretary of the Rhode Island Medical Society also four years later.

As a novice in the medical organization field I, like many who were to follow me, turned to veterans like Ted Wiprud for guidance. His sound advice and counsel through the years to me, and I am sure to many other executive secretaries, has extended his service to American Medicine far beyond the scope of the District of Columbia.

As one of his contemporaries and sincerest admirers, I express my best wishes to Ted, and my felicitations for a difficult executive job done exceedingly well.

JOHN E. FARRELL, SC.D.
Executive Secretary,
The Providence Medical Association and The Rhode Island Medical Society

SINCE I AM UNABLE TO ATTEND the D. C. Medical Society's tribute party for Ted Wiprud on May 19, I should like to express my great appreciation for his friendship, help and guidance over the many years I have been with medicine.

I first met Ted at the AMA Convention in San Francisco, June, 1945 and immediately became attached to him. His leadership and dependable characteristics were immediately discernible and relied upon by executive secretaries country-wide.

He has been a guiding light to us all, for which we are most appreciative.

There is another strong influence we all have felt—that of Mrs. Wiprud. She is just as wonderful as is Ted, and I should like to express my deep affection for both of them.

Good luck to them both.

RALPH W. NEILL
Executive Secretary, Washington State Medical Association

★

SINCE BECOMING ASSOCIATED with organized medicine more than 12 years ago it has been my pleasure to sit at the feet of such splendid pioneers in our work as Ted Wiprud, Chuck Nelson, and Bill Bartleson. They have taught and inspired so many of us in this business.

Ted Wiprud's active and sincere interest in his work, his highly intelligent and effective leadership, his wisdom and patience, his energy and his dedicated service will be greatly missed both in organized medicine and medical journalism.

Those of us who have been fortunate enough to enjoy and profit by our relationship with Ted will always be grateful for the personal contribution he has made to us and what we are trying to do. Although we will sincerely miss him, we are delighted that he is able to retire and that he has the capacity to fully enjoy his retirement. He has our warmest and best wishes.

J. P. SANFORD
Executive Secretary,
Kentucky State Medical Association

MY ACQUAINTANCE with Ted Wiprud extending back over the past quarter of a century has been a very rewarding one. Friendly by nature, Ted has endeared himself to many in the medical profession, among whom I am one. His ability as an executive has long been recognized, and to this is added the valuable qualities of a writer and a teacher.

The group of State Medical Journal editors and business managers has developed a camaraderie all its own, thanks to such leaders as Ted Wiprud. Retirement comes to all of us sooner or later. To some it is but a step from one phase of living and working into another. To others it represents a much needed rest after a demanding life of work for others. Whatever course Ted chooses to pursue, he will continue to contribute to the betterment of mankind.

May God be gracious to him in the years ahead.

STANLEY B. WELD, M.D.
Formerly Editor-in-Chief,
Connecticut State Medical Journal

★

THOSE OF US who continue to labor in the vineyard for the medical profession are sorry to lose Ted Wiprud from our ranks.

Personally, ever since meeting him back in the late 20's when we were both neophytes at this business, I have given high priority to his good judgment and have respected him for the efficient job which he has done for medical organization. Men like Ted are the ones who have set the high standards which govern the hundreds of men and women now serving as executives of our national, state and local medical societies. The Medical Society of the District of Columbia has been extremely fortunate in having had him in charge of its administrative affairs for so many years.

I join with his multitude of other friends and acquaintances in wishing him Godspeed and lots of fun as he quits fighting the clock, as well as misguided politicians. Best wishes also to Mrs.

Wiprud, who has had to take his guff all these years.

CHARLES S. NELSON
Executive Secretary, Ohio State Medical Association

★

WEBSTER STATES that a tribute among other things manifests respect, allegiance and gratitude.

Ted Wiprud has had all of these from his fellow secretaries serving medical associations throughout the country. Even more, he has had their affection as well, for he is not only an able man, but one who has never failed to match his ingenuity against the problems presented by others for his advice and assistance. With his background and the experience gained in the Badger State, we take particular pride in the encomiums given this outstanding leader. And I, personally, join in every word of them.

C. H. CROWNHART
Secretary, The State Medical Society of Wisconsin

★

I HAVE KNOWN TED now for some 14 years and it has been a privilege, not only to know him but to have the opportunity to work with him in many activities in behalf of organized medicine. He has been responsible for helping me to better understand some of the problems of organized medicine and, particularly, to appreciate the responsibility that an Executive Secretary of a medical group carries. I regret that he will no longer be active in many of the affairs to which he has contributed so much for so many years. I am sure his interest will continue. Those of us who are still in the business will assist others in any way possible to help carry on the fine tradition which he has set during his years of service to the medical profession.

JAMES A. WAGGENER
Executive Secretary, Indiana State Medical Association

MEMENTO TO MR. WIPRUD FROM NEWS SERVICES

GERALD G. GROSS (right), Editor of the *Washington Report on the Medical Sciences*, presents a sterling silver plate centered, appropriately, with a Viking Ship, to THEODORE WIPRUD, retiring Executive Director of the D. C. Medical Society. The gift, an expression of "affection and esteem," was given in behalf of representatives of the press, radio and TV at the dinner, sponsored annually by the Society's Committee on Public Information and Education, at the Hotel Washington, April 17.

Fourteen members of the Medical Society were hosts to 18 members of the news services. Ben Gilbert, City Editor of *The Washington Post*, Sidney Epstein, City Editor of *The Evening Star*, President Dryden of the Medical Society, Dr. Donald Stubbs, and Dr. Paul R. Wilner, Chairman of the sponsoring committee, were among those who spoke briefly. Verses written by Nate Haseltine, Science Writer for *The Washington Post*, to commemorate the occasion were read by Mr Gross in the author's absence.

IT WAS MORE than a quarter of a century ago that I first met Ted Wiprud. He was then Executive Secretary of the Milwaukee County Medical Society. Well do I remember the respect which his colleagues in the field of medical society administration had for Ted back in those days. As the years rolled by, it was my privilege to watch this respect grow into genuine friendship and then deepen into admiration and esteem.

This is no exaggeration. To be selected as the first President of the Medical Society Executives Association, when this national organization was formed in 1947, is proof-positive—if proof is needed—of what the rest of us think of Ted Wiprud.

One might differ upon occasion with Ted, but there is never any question about the validity of his logic or the integrity of his motives. While his logic and mine might lead us to different conclusions, he is never illogical. And as for integrity, Ted Wiprud is integrity personified.

Ted has an exquisite sense of propriety. He enjoys gaiety in its proper time and place, but frivolity out of place is discordant to the very nature of this man of culture and refinement.

There are literally hundreds of us for whom Ted Wiprud has exemplified the best in medical society administration. The profession, I am sure, is grateful for his many and varied contributions. And we who labor in the vineyard of medical society activity are grateful for his leadership and inspiration.

In the years to come, may God grant the best of everything to Ted Wiprud—one of His own noblemen who richly deserves His greatest blessings.

LESTER H. PERRY
Executive Director, Pennsylvania Medical Society

"Ted" Wiprud's Night

FOR THEODORE WIPRUD and his many friends in the Medical Society of the District of Columbia and elsewhere, Saturday evening, May 19, will be "a night to remember." On that evening members of the Society, civic leaders of the Washington Metropolitan Area, and distinguished leaders of medicine from near and far away gathered in the Mayflower Hotel for a testimonial dinner prior to his retirement as Executive Director and Secretary of the Society on June 30. At a reception in the Chinese Room he and Mrs. Wiprud received the good wishes of those present. Immediately following a delicious dinner, served in the Grand Ballroom, Dr. Herbert P. Ramsey, as "Timekeeper," emceed "in his inimitable style" a program diversified and highly entertaining.

"A TRUE DISCIPLE OF AESCULAPIUS"

DR. HERBERT P. RAMSEY, the genial Master of Ceremonies at the Testimonial Dinner, applauds with guests as THEODORE WIPRUD, who has just been presented the bust of Aesculapius by Mr. Roy T. Ragatz, Assistant Secretary of the State Medical Society of Wisconsin. Mr. Wiprud is designated on the plaque as "A True Disciple of Aesculapius."

Dr. Ramsey called his program, "Matters of Great Moment." A "moment of reverence" was the invocation by the Reverend Dr. Charles E. Berger, Rector of All Saints Episcopal Church. The Honorable Walter N. Tobriner, President of the District of Columbia Commissioners, described Mr. Wiprud's contributions to the Washington community.

Dr. William S. Middleton, Chief Medical Director of Veterans Administration and Dean and Professor of Medicine Emeritus of the University of Wisconsin, recalled Mr. Wiprud's early years in Wisconsin as his career turned to the cause of medicine, beginning in the town of Frederic and later extending to Milwaukee County, where he was Executive Secretary of the County Medical Society from 1929 to 1938. Also representing the Badger State were Dr. Ralph P. Sproule, Past President of the Milwaukee County Medical Society, and Mr. Roy T. Ragatz, of Madison, Assistant Secretary of the Wisconsin State Medical Society, who presented the honoree with a bust of Aesculapius, in behalf of his Society, as a

RECEIVING LINE AT THE WIPRUD DINNER

MR. AND MRS. THEODORE WIPRUD (right) greeted hundreds of guests who gathered at the Mayflower Hotel, May 19, to honor him. DR. JAMES W. WATTS (left), Chairman of the Medical Society's Executive Board, DR. J. SPENCER DRYDEN, President of the Society, AND MRS. DRYDEN added the dignity of their offices and their personal charm to the receiving line.

testimonial to the high national regard in which he is held.

Dr. Hugh H. Hussey, Dean of Georgetown University School of Medicine and Chairman of the Board of Trustees of the American Medical Association, conveyed greetings to those present and congratulations to Mr. Wiprud from Dr. F. J. L. Blasingame, Executive Vice President of the AMA. Dr. Hussey enumerated some of Mr. Wiprud's contributions in the way of public relations, voluntary health insurance, and Emergency Medical Service. In the role of "Observer," through his column in the MEDICAL ANNALS, Dr. Hussey said, he has shown "honesty, wisdom and foresight, but, most important, he has been a 'keeper of the faith.' "

Dr. Wallace M. Yater, Editor of the MEDICAL ANNALS, noted the amicable relations that have existed all these years between him and the Managing Editor. He also praised his column, "In and Out of Focus," for its reader interest and credited his managerial efforts in behalf of the ANNALS as a key factor in producing what is recognized as one of the best state medical journals.

A skit, "Inside Ted Wiplash," satirized the Secretary in his role as advisor and confidant. Participants were Drs. Wesley M. Oler, Darrell C. Crain, Robert Day, Harry Douglas, J. Earl Kadan, and David Mast. Dr. Maurice van Kinsbergen assisted with the music. Dr. Kadan also read some original verses of a light nature entitled, "An Ode to Ted."

Dr. Ramsey had planned two special surprises for the evening in the form of greetings by tape recording. They were from Dr. Leonard W. Larson, of Bismarck, N. D., President of the AMA, and the Honorable Walter H. Judd, Congressman from Minnesota.

Major General Howard McC. Snyder, personal physician to former President Eisenhower, was called to the podium and, to the delight of all present, read the following personal message from General Eisenhower:

GETTYSBURG, PENNSYLVANIA, May 16, 1962

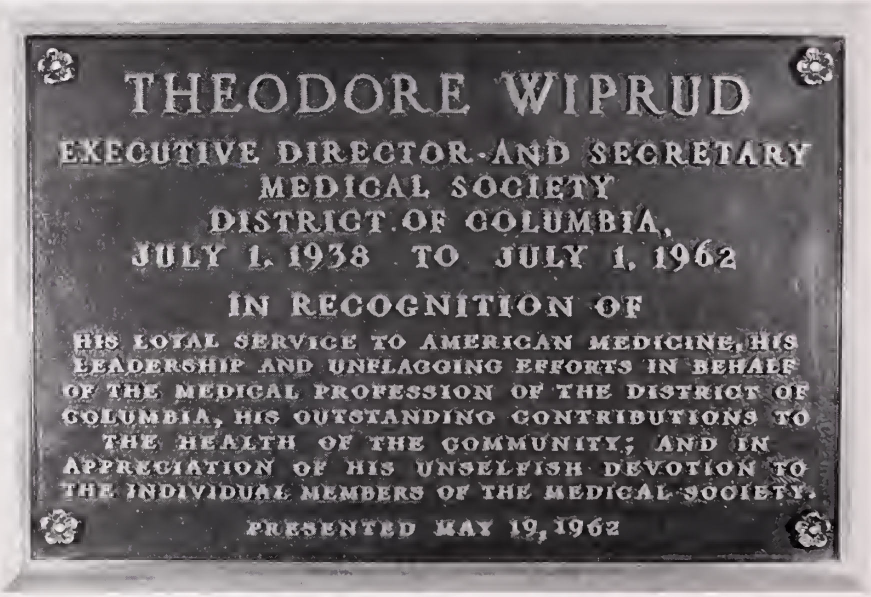
DEAR MR. WIPRUD:

On this, the occasion of your retirement as Executive Secretary of the Medical Society of the District of Columbia, I hope you will permit me to join in the tribute to your many accomplishments that will be paid you by your colleagues and friends.

I understand that for the last twenty-four years you have directed the affairs of the Medical Society, and in so doing, contributed much to the advancement of medical care in the District. In fact, General Snyder tells me that the District Blue Shield plan came as a direct result of your energetic and effective efforts. Although I am sure that your greatest satisfaction is the knowledge that you have been able, through that plan, to help a great many people bear the costs of serious illnesses that otherwise might have been a permanent drain on their finances, it should also be a source of gratification that the medical profession of the District and the many lay people who have benefited by your intelligent and informed advice, owe to you a lasting debt.

I trust that in your retirement you will find continuing opportunity to pursue your service to others, and I send to you my felicitations and best wishes.

Sincerely,
DWIGHT D. EISENHOWER



THEODORE WIPRUD
EXECUTIVE DIRECTOR AND SECRETARY
MEDICAL SOCIETY
DISTRICT OF COLUMBIA,
JULY 1, 1938 TO JULY 1, 1962
IN RECOGNITION OF
HIS LOYAL SERVICE TO AMERICAN MEDICINE, HIS LEADERSHIP AND UNFLAGGING EFFORTS IN BEHALF OF THE MEDICAL PROFESSION OF THE DISTRICT OF COLUMBIA, HIS OUTSTANDING CONTRIBUTIONS TO THE HEALTH OF THE COMMUNITY; AND IN APPRECIATION OF HIS UNSELFISH DEVOTION TO THE INDIVIDUAL MEMBERS OF THE MEDICAL SOCIETY.
PRESENTED MAY 19, 1962

Dr. James W. Watts, Chairman of the Society's Board of Directors, presented the Society with a bronze plaque, which will have a prominent place in the Society's building. Dr. J. Spencer Dryden, President of the Society, presented Mr. Wiprud with an illuminated scroll which carries the same inscription as the plaque.

Dr. Henry L. Darner, President of Medical Service of the District of Columbia, in a brief, laudatory speech revealed that Mr. Wiprud has accepted an advisory position with Medical Service of the District of Columbia.

A congratulatory cablegram came in from Mr. George W. Cooley, Director of the Department of Medical Service of the AMA, who will succeed Mr. Wiprud as Secretary on July 1. Telegrams were received from two Past Presidents, Dr. James N. Greear, Jr., of Reno, Nev., and from Dr. Donald Stubbs, who were unable to be present. Special recognition was given Dr. H. C. Macatee, both Past President and long-time Secretary of the Society. The Past Presidents were honorary members of the Committee on Arrangements.

Dr. Ramsey recognized, in addition to those at the Head Table, a number from the floor, including those of the honoree's family who were present: his daughter, Mrs. Manning, and Dr. I. H. Manning, of Durham, N. C.; his son, Mr. Grant Wiprud, and Mrs. Wiprud, of Kensington, Md.; his brother, Mr. Arne Wiprud, and Mrs. Wiprud, of New York City. A sister, Mrs. Guy F. Jensen, and his mother, now nearly 99 years of age, both of Minneapolis, were unable to be present.

Mr. Wiprud responded to the encomia with a brief talk in which he stated he believed he could call all those present by their first names; that if he had the past 24 years to live over again his choice of position would be the same—Executive Director and Secretary of the Medical Society of the District of Columbia—part of a team in one of the most progressive State Medical Societies in this country.

As usual, many hands, both within and without the Society's membership, assisted in making the occasion a pleasurable event. Dr. Ramsey headed the Committee on Arrangements and Dr. W. LeRoy Dunn was Vice Chairman. Mr. Lawrence A. Zupan, as Secretary of the Committee, did yeomanly duty in handling the details.

Patrons who provided appreciated financial assistance were: Arcum Pharmaceutical Corporation, Burton, Parsons & Company Inc., Capital Credit Corporation, Chloraseptic Company, Credit Bureau, Inc., Joseph E. Jones Agency—Mutual of Omaha, Kalorama Convalescent Home, Inc., Nelson Kloman Surgical Supply Company, Professional Business Management, Russell, Marsh & Kennedy, and Eugene F. Roesser.

An Ode to Ted

He was born in Heddal, Norway, in 1891
And landed on our shores before the age of one.

His father preached the Word of God as all good preachers do
In every town and buggy-stop where folks would listen to.

And little Teddy went along to help his father's calling,
Learning hardships of a life that proved much too appalling.

From eight until his father's death Ted's life was quite serene
When suddenly became head-of-house at tender age fourteen.

At nineteen Ted was grubbing gold in Montana's elevations
With only wall-eyed Sparks as friend and bony transportation.

He sold railroad tickets during the week and baggage smashed for wages
So he could try the Thespian Arts on little theater stages.

Ted played the stage as minstrel man and comic butler too;
Directed, coached, and managed plays in what Sullivan calls the "shew."

Ted tried his hand at punching cows on Montana's wildest prairies
And joined up with the National Guard to soldier in their soirees.

He loved to march and blow his horn or saw upon his fiddle,
For music was the whole of him—the front, the back, the middle.

Ted organized the town's first band and dressed them like Don Juan
While he upon the podium stood and led them with baton.

A pearl inlaid wand it was, in Ted's accomplished hand
Making oompah music—Ah—the sounds of Teddy's band.

He cashiered in a Dakota bank, much against his wishes,
Until a pretty teachin' gal swept him off his britches.

A pretty gal she was, we're told, with lovely pink complexion,
And she became Ted's wife and mate—his only real obsession.

Their lives were blessed with children two, the first two years of marriage,
And Ted's affluence grew and grew, from Sparks to horseless carriage.

Ted left the bank for medical fields in 1921
And found that doctors work like hell but also have some fun.

In '28 Ted gave a talk at a county medical meeting
And conned the boys into hiring him as Exec. Sec. with breeding.

For nine long years Ted labored there and made a reputation
Of such import that we hired him to our D. C. reservation.

Ted's genius and ability have long been taken for granted,
But now that he is leaving us we wish he had recanted.

The time has come to say goodby to Ted, the doctors' friend,
But hope he'll hang around in case we need him once again.

J. Earl Kadan, M.D.

A significant number of intracranial tumors are benign, making complete surgical removal feasible. This advantage is sometimes lost when the tumor attains an unusually large size as a result of delay in diagnosis. Early diagnosis helps avoid irreparable neurological deficit prior to actual treatment. Meningiomas, acoustic neurinomas, and cystic astrocytomas of the cerebellum fall into the above category. One additional neoplasm, the pituitary adenoma, is curable either with surgery or radiotherapy or a combination of the two. Failure to recognize this entity may lead to irreversible visual loss.

Frequent manifestations of intracranial neoplasms in children are the following:

1. Projectile vomiting
2. Staggering
3. Enlargement of head in infants (hydrocephalus)
4. Apparent visual loss with or without strabismus

In adults, one frequently encounters complaints of:

1. Headache
2. Personality change
3. Aphasia
4. Convulsive seizures (first time), especially focal attacks
5. Failing vision
6. Localized weakness or numbness of one or more extremities

In addition to a complete neurological examination including careful funduscopic and visual field evaluation, the following laboratory tests may be of value in a preliminary survey of the patient:

1. Skull X-rays
2. Chest X-rays
3. An electroencephalogram
4. Spinal puncture (in selected instances)
5. Brain scan with radioactive isotopes

The results of all of the above studies will determine the desirability of proceeding with contrast studies such as cerebral angiography or air studies.

RESEARCH
EDUCATION
SERVICE

American Cancer Society
District of Columbia Division
810—18th Street, N. W.
Washington 6, D.C.
EXecutive 3–3690

Blue Shield on the March*

HENRY S. BLAKE, M.D., F.A.C.S.
Chairman, Board of Trustees, National Association of Blue Shield Plans

THE YEAR JUST PAST has been marked by the most significant and momentous series of events ever recorded in the history of Blue Shield. We have witnessed a relentless and determined effort on the part of the "Doctor's Plan" and the medical profession to maximize the effectiveness of the nonprofit voluntary health care system in the United States. We have been responsible for a number of developments which will undoubtedly have a far-reaching and profound effect on the future of voluntary health care, and which will certainly play an important role in determining whether future generations of Americans will be able to reap the advantages of a free enterprise system of medical care. We have at our disposal the means with which to meet all our responsibilities to the medical profession as well as the public. We need only to employ these means effectively. For, if we can completely activate the tremendous potential of Blue Shield here and now, then the future of private medicine as well as voluntary prepayment will be marked by success and achievement. On the other hand, if we fail in this effort, then we can only look forward to the deterioration of a system which has produced the finest medical care the world has ever known.

Perhaps it would be fitting to review briefly the highlights of this year in order to bring into proper perspective the significant developments which have occurred so that we may assess and evaluate these developments in terms of the future.

In the area of enrollment Blue Shield recorded significant gains as it extended the benefits of its coverage to some 2,037,176 subscribers. The 74 approved Blue Shield Plans now provide health care protection for more than 49,100,000 people, more than 25 per cent of the United States population and more than 15 per cent of the Canadian population. Five Plans, Washington, D. C.; Providence, R. I.; Rochester, N. Y.; Wilmington, Del.; and Cleveland, Ohio, provide coverage for more than 50 per cent of the population within their respective areas.

During the past year Blue Shield Plans paid approximately $815,000,000 for surgical-medical care rendered their members. This figure represents an all-time high in payments. The significance of this is in the fact that better than 90 per cent of total earned income was returned to the subscriber in the form of health care benefits, while less than 10 per cent was devoted to meeting administrative expenses. Thus it is apparent that Blue Shield Plans are succeeding in the development of a program that effectively provides for the needs of its members.

Blue Shield, together with Blue Cross, registered one of its most significant achievements in July of 1960, when it led all other organizations in the enrollment of Federal workers who became eligible for coverage under the Federal Employees Health Benefits Act. At that time, more than 55 per cent of the estimated 1,695,000 Government employees, in selecting health benefits coverage from among the 38 programs available, chose to enroll in Blue Cross-Blue Shield.

The Federal Employee Program, in effect, has been a proving ground for the voluntary health care prepayment system in America. The medical profession, working through its own prepayment mechanism. Blue Shield, has been challenged to demonstrate its efficiency and integrity in the care of those who work for the Federal Government. Has Blue Shield and the medical profession effectively met this challenge since the inception of the program and especially during the past year? Let's examine the record. Of the Government workers enrolling after the initial selection period ending July 1, 1960, 68 per cent chose Blue Cross-Blue Shield; 19 per cent chose the commercial indemnity program; and 13 per cent selected other approved plans. During the open enrollment period held in October of last year, Blue Cross-Blue Shield gained 53,799 new subscribers, while the commercial program registered a total loss of 6,663 subscribers. This reflects an increasing recognition of the superior quality of the Blue Cross and Blue Shield program, and is a tribute to the wholehearted support given the program by the medical profession.

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* Address, slightly abridged, delivered at the Annual Business Meeting of Blue Shield Plans in Colorado Springs, Colorado, April 1, 1962.

Blue Shield and its physician sponsors have demonstrated through the Federal Employee Program that the "Doctor's Plan" not only can compete in a national market but can far surpass the efforts of its competitors because of the unique and comprehensive features of its community-oriented programs of coverage.

Certainly I would be remiss if I failed to mention the encouraging progress made during the past year by the Joint Commission for the Promotion of Voluntary Nonprofit Prepayment Plans. The Commission was established in 1961 to implement the resolution adopted by the AMA calling for the organization of a program of action to stimulate ". . . maximum development of the voluntary nonprofit prepayment concept to provide health care for the American people." Representatives of the four organizations comprising the Commission, the American Medical Association, American Hospital Association, Blue Cross Association and the National Association of Blue Shield Plans, have met several times since, and have taken a number of vital steps designed to strengthen and coördinate the efforts of these organizations in meeting the health needs of our citizens. At its meeting in May of 1961, the Commission approved a report prepared by the National Association of Blue Shield Plans on improving relationships between the American Medical Association and Blue Shield, and recommended its transmittal to the AMA for implementation. The report contained several important suggestions designed to provide an effective basis for increased coöperation between the two organizations in bringing the untapped resources of the medical profession and Blue Shield to bear in developing and extending the prepayment mechanism. Five of these recommendations have been approved by the Board of Trustees of the American Medical Association thus far. They are, in brief:

1. Sponsorship by the American Medical Association and Blue Shield of conferences for medical society officers and Plan trustees. On April 13 the first of these conferences will take place. Significantly, this first regional meeting will be held directly preceding and in conjunction with the American Medical Association's eighth regional conference on "The Future of Voluntary Health Insurance and Prepayment Plans."

2. Development and distribution by the American Medical Association of guidelines for establishing more effective methods of strengthening Blue Shield-physician relationships at the local Plan level.

3. Definition by the American Medical Association of what it considers to be appropriate and desirable goals toward which the Blue Shield program should be directed in fulfilling its mission of service to the community and the medical profession.

4. That the American Medical Association schedule and encourage participation in a Blue Shield program session during the annual meeting and interim session of the American Medical Association.

5. Development under joint American Medical Association and Blue Shield sponsorship of a recommended educational program for senior medical students.

Another example of the progress made by the Commission during the past year was its sponsorship of a conference on hospital utilization during which the various ramifications of this question were given careful consideration. It is quite obvious then that the Joint Commission has established a significant record during its brief tenure of existence. It has provided Blue Shield the opportunity to work with related organizations in the health care field in developing a basis for joint action aimed at overcoming the obstacles standing in the way of extending the scope of Blue Cross and Blue Shield to meet maximum public need.

Your National Association has expanded the scope of its activities immeasurably this year. Increased efforts have been made to provide Plans with the broadest range of services possible to insure a coördinated approach locally and nationally in translating the ideals of Blue Shield into sound and positive programs. Such important undertakings as the development of the Professional Services Index, the introduction of the Senior Citizens Program, continued implementation of the Functional Cost Accounting Program, increased research activities, and a wider range of professional relations activities have been carried out by the national office.

Our National Association can serve an increasing measure of responsibility in behalf of its member Plans. It can become a constructive influence capable of motivating greater progress and achievement in Blue Shield. To do this, however, the member Plans through their executives and trustees must participate directly and increasingly in Association affairs, for this is the only source from which the Association may derive leadership and cultivate its employment in solving the critical problems inherent in the future of our voluntary health care system. Likewise, the national organization must be provided adequate funds with which to finance its increasingly diversified and extensive system of operations. For if the Association cannot operate on a sound financial basis, then not only will our national efforts be seriously restricted but the local endeavors of each Plan will be less effective. I therefore urge the adoption of the recommendation for a dues increase in order to provide your national organization the financial means with which to continue its vital and necessary service to member Plans.

We have progressed rapidly this past year in many vital areas and we can be proud of our efforts. But there are other areas in which we have made little or no advancement. The failure to implement and render effective national programs on which the very existence of Blue Shield rests can be attributed solely to our unwillingness to surrender a measure of local autonomy in the interest of progress and growth. Thus far only five Plans have signed the new national account agreement and only four Plans have agreed to adopt the Professional Services Index. These are the mechanisms which will enable Blue Shield to compete effectively and move ahead in the national market. We know this. We have been aware of the importance of effective and comprehensive national programs for years. We have voiced our agreement in support of these programs, but so far we have been unwilling to take necessary steps to effectuate a thorough and realistic national offering across the board. Let me say now, that as long as Blue Shield refuses to meet the demands of national employers it can only look forward to a slow and painful relapse into comparative oblivion. We must act now with forthright vigor and enthusiasm if we are to insure a bright and rewarding future. We have the means, but sometimes it would appear that we lack the desire to act promptly, decisively and with conviction in the refining and the presentation of our National Accounts. I am not implying or indirectly requesting that the authority of National Blue Shield be extended beyond the point of "States Rights," but I am saying that when an obvious majority feels that something is good for the millions of Blue Shield members and the many thousands of Participating Physicians, then you should make every effort to accommodate your own Plan operation to meet specific objectives.

There may be valid reasons why your Plan cannot participate in a national contract, but be sure that you determine validity under the intense illumination of logic. Blue Shield, locally and nationally, should not and really cannot tolerate obstructions to progress if these barricades are structured from emotional and illogical thinking. Idealism we cherish, and we must preserve it within our mandate to keep up with the progress of medicine. Blue Shield must lead the way and we cannot afford to let our course be adversely altered by the philosophy of "stand-patism."

For some time now the problem of health care coverage for the aged has been the subject of numerous Congressional bills. There is no question as to the magnitude of political impact that such legislation can have. Nor can there be any doubt that the urge for votes could precipitate a law based on political expediency rather than need. The opportunity to provide this important segment of our population with an adequate national program is available to us if we coöperate in backing the efforts of the National Association in implementing the National Blue Shield Senior Citizens Program. This program is without a doubt the most important national undertaking ever attempted by Blue Shield. It has received the wholehearted and unqualified support of the American Medical Association as an effective solution to meeting the health needs of our senior citizens. It is a primary example of what the voluntary prepayment system can do when applied in a conscientious and determined manner.

The aged program has been afforded unprecedented recognition throughout the Nation. More than 1,500 newspaper clippings have been received by the national office, citing various aspects of the program, and editorial comment has been most favorable. Letters have been received from numerous Congressmen and other Government officials commending the efforts of Blue Shield, and elderly citizens in large numbers have begun inquiring as

(Continued on page 378)

New Rehabilitation Service at D. C. General

The Psychiatric Convalescent and Rehabilitation Service, a new Division at D. C. General Hospital, is scheduled to begin operating in the near future. Physical facilities for the unit will be in the old Psychiatry Buildings, vacant since 1958, which have since undergone a thorough refurbishing and renovation.

The new Unit will have a total capacity of 180 beds, allotted to six separate wards. It will have its own dining hall and recreational areas as well as industrial painting, laundering, janitorial services, electrical appliance repair, sewing and dressmaking, typing and other clerical skills, mechanical drawing, blue print reading, and complete kitchen training. In addition, there will be training in other types of work which are available in or on the grounds of a large general hospital.

This new Division is designed to care for general psychiatric patients as well as patients suffering from alcoholism, drug addiction, and various physical difficulties associated with emotional disturbance. Treatment is oriented primarily for that group of patients whose illness no longer requires the full services of an acute hospital setting or continued institutional care on a long-term basis but who are not yet able to return to their homes as completely independent persons. The average length of stay is planned to last from four to six months.

The various methods of therapy to be utilized will include individual and group psychotherapy, vocational counseling, case-work counseling, remedial educational training, occupational therapy, physical therapy, work therapy, recreation and vocational psychodrama (practice work situation). All therapies will go on in the atmosphere of a therapeutic community in which the patient will be expected and encouraged to assume responsibility and sharing in day-to-day decisions for the Unit's operation.

On admission each patient will be evaluated by a staff conference so that an individual treatment program may be planned and systematically carried out. There will be great flexibility in arranging for patients to spend time outside the hospital working or living at home, alternating with time spent in the hospital milieu. By this flexibility and individualization, the Unit will serve as a day-night hospital and patients can be spared both the dangers of complete dependence on an institution and the dangers of a premature return to a situation in the community which precipitated their illness.

The staff of the Psychiatric Convalescent and Rehabilitation Service will consist of psychiatrists, a physiatrist, psychologists, nurses, social workers, occupational and work therapists, physical therapists, and nursing assistants. Because of the emphasis on healthy group living as a therapeutic experience, the staff will be in very close patient contact, and also necessarily in close contact with each other. Staffing is not yet completed. Anyone interested in a position in this Unit may contact Dr. Arthur H. Kiracofe, Chief of the Psychiatric Convalescent and Rehabilitation Division, D. C. General Hospital, Washington 3, D. C.

First Medical Self-Help Training Program

A 14-lecture series, entitled "Classroom 9: Medical Self-Help" was presented over WTOP-TV, Channel 9, April 16 to May 16, three days a week, from 6:30 to 7:00 a.m. The programs related to civil defense under disaster conditions when normal medical facilities are destroyed or useless. The course is designed to teach the viewer what survivors, who would be confined to shelters, could do to provide themselves with medical care. The course is based on the supposition that no professional medical care might be available for two weeks or more. By such illustrated lectures and demonstrations it is expected that some 60 million persons in this country will be trained in family survival medicine.

The introductory program was sponsored jointly by the American Medical Association, the U. S. Public Health Service, the U. S. Office of Civil Defense, the D. C. Department of Public Health and Public Schools, The Medical Society of the District of Columbia, the D. C. Chapter of the American Red Cross, and the D. C. Office of Civil Defense.

Dr. Howard C. Pierpont, the D. C. Medical Society's representative in the Medical Self-Help Training Program, was faculty advisor for the lectures. He is Associate Professor of Surgery at George Washington University School of Medicine. The following topics were presented by staff members of George Washington University:

"Burns," Dr. Gordon S. Letterman
"Bleeding and Bandaging," Dr. Paul C. Adkins
"Shock," Dr. Howard C. Pierpont
"Fractures and Splinting," Dr. John P. Adams
"Transportation of Injured," Dr. Charles S. Wise
"Artificial Respiration," Dr. Brian Blades
"Infant and Child Care," Dr. Preston A. McLendon
"Emergency Child Birth," Dr. William P. McKelway

Dr. John Lang, of the Public Health Service, gave the first lecture on "Radioactive Fallout and Shelter." The D. C. Department of Public Health provided speakers on the following subjects: "Hygiene, Sanitation and Vermin Control," "Water and Food," and "Nursing Care of Sick and Injured."

University coördinator was Lillian Brown, Director of the Department of Radio and Television at George Washington University. The programs were directed by Paul Liebler of WTOP-TV. The series was scheuled for a repeat performance on video tape beginning May 16, Monday, Wednesday and Friday, after which it will be available to other stations for use around the country.

Dr. Pierpont attended the first of three national meetings related to Medical Self-Help, and has since demonstrated the training kit and its contents before those groups who would be asked first to participate.

New D. C. Chapter of AAMA

The District of Columbia Chapter of the American Association of Medical Assistants was formally organized, May 2, 1962 at a meeting in the D. C. Medical Society's building. Mrs. Eller Clohessy (Secretary to Dr. John C. Murphy)* is the first President, and Miss Bernadette Aukward (Dr. James E. Fitzgerald) is the President-elect. Other officers elected were Mrs. Patricia Anfang (Dr. Albert I. Robins), Secretary, and Miss Mary Baker (Dr. Jerome H. Epstein), Treasurer.

Present at the installation of officers were Dr. Paul R. Wilner, Chairman of the D. C. Medical Society's Committee on Public Information and Education; Dr. Russell Fisher, Advisor to the Maryland Chapter, the Baltimore Chapter, and the parent American Association of Medical Assistants; Miss Dorothy Hartell, President of the Maryland Chapter, AAMA; and Miss Mary Harris, President of the Virginia Chapter, AAMA.

The principal objectives of the Association are self-improvement, fellowship, and liaison with members of chapters in other communities. The Association also hopes to inspire loyal and efficient service to the profession and to the the public whom they serve.

A preliminary meeting was held, March 16, 1962 when Miss June Snyder, Chairman of the Extension Committee, AAMA for District No. 3, and President of the Pennsylvania Chapter, addressed members of the doctors' office staffs who were present for a program sponsored by Dr. Wilner and his Committee. Temporary officers were elected at that meeting, as well as a Committee on Constitution and By-laws.

Monthly meetings are planned for the first week of the month, alternating Wednesday and Thursday evenings. The next meeting is scheduled for July 5.

Membership

The following applicants for membership were duly elected to membership by the Executive Board, April 23, 1962, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

Donald F. Bogdan, Georgetown University Hospital
Gilbert E. Hurwitz, 1800 Eye Street, N.W.
LaSalle D. Leffall, Jr., Freedmen's Hospital
John J. Mulligan, 919 18th Street, N.W.
Virginia P. Porter, George Washington University Hospital

Associate Members

Paul A. DeVore, 3207 Toledo Place, West Hyattsville, Md.
William C. Humphries, P.O. Box 1147, Front Royal, Va.
Wellington Hung, 3925 Ilford Road, Silver Spring, Md.
Gerald I. Shugoll, Mt. Alto Veterans Administration Hospital

Resident-Intern Member

Edward E. Gahres, Washington Hospital Center

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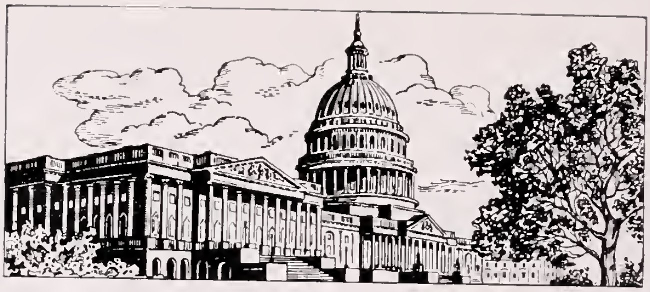
* The name of the physician-employer is included in parentheses after each officer for purposes of identification.



NEWS & PERSONALS

Meetings

Washington physicians may be interested in the meeting of the **International Doctors in Alcoholics Anonymous,** to be held, July 20–22, at the New Holiday Inn in Moline, Illinois. Membership in the organization is open to physicians and dentists interested in the medical or psychiatric aspects of alcoholism and to doctors who themselves are members of Alcoholics Anonymous. Further information may be obtained from Dr. Lewis K. Reed, 2914 Southern Blvd., Youngstown 7, Ohio.

General News

The Executive Board of the Medical Society of the District of Columbia met in the Medical Society's building on April 23. Dr. James W. Watts, Chairman, presided. A report on the Annual Meeting of the National Association of Blue Shield Plans, held in Colorado Springs, Colorado, April 1–3, and prepared by Dr. Donald Stubbs, Director-at-Large, was read to the Board. Representing Medical Service of D. C. at this meeting were Drs. Stubbs, Henry L. Darner, C. Willard Camalier, Jr., James Feffer, and Messrs. Theodore Wiprud, George McGovern, and Robert Holmes. The report was accepted with thanks.

The Secretary informed the Board of the resignation, effective May 31, of Mr. Lawrence A. Zupan, who has served as Assistant Secretary of the Society for $12\frac{1}{2}$ years. The Board voted that a certificate of appreciation be presented to Mr. Zupan at a dinner to be given in his honor on May 15.

The Board was informed that Dr. Richard H. Todd was ineligible for reappointment to represent the Society in the Health and Welfare Council's Delegates' Assembly for 1962–63. In his place President Dryden appointed Dr. Otis R. Farley, whose appointment was approved by the Board. The Board also approved the appointment of Dr. Robert S. Smith to represent the Society at the HWC's Conference for the year 1962–63.

The Medical Emergency and Disaster Service of the Medical Society of the District of Columbia conducted a satisfactory exercise on April 15, 1962, at the Washington National Airport, beginning at 7:15 a.m. and continuing until 10:15 a.m. The 24 participating physicians were the first group of doctors to become acquainted with the Medical Self-Help Training Kit.

Upon reporting for duty the physicians received a basic instructional lecture on the Medical Self-Help Training Kit from Dr. Howard C. Pierpont, representing the D. C. Medical Society, and Mr. Douglas McAllister, representing the D. C. Office of Civil Defense and the U. S. Public Health Service. This was followed by a live action demonstration of the emergency fire, disaster, rescue and medical vehicles operated by the Washington National Airport under the direction of the Federal Aviation Agency. Full coöperation was accorded MEDS by officials of the Airport, including Mr. Herbert F. Fletcher, Chief of Operations and Safety Division; Drs. Herbert A. Moskowitz and Jack Crowell, Medical Examiners; and Elizabeth W. Turner, R.N., Chief of the First Aid Branch.

Participating in the exercise were the following members of MEDS: Drs. Ernest H. Aschenbach, Wyrth P. Baker, Philip Bloemsma, William Chin, Milton C. Cobey, Henry D. Ecker, Andrew E. Fischer, Richard Gitter, Francis P. Hannan, Frederick B. Hartsock, John W. Latimer, Jr., Beveridge Miller, Edwin C. Mitchell, Katherine K. Rice, Murry M. Robinson, Oswald E. Roggenkamp, Arch S. Russell, Jr., Leo J. Schildhaus, Robert E. Smith, Walter R. Stokes, and Richard H. Todd. Dr. Russell M. Tilley, Chairman of the Committee on Disaster Medical Care of the D. C. Chapter, American Academy of General Practice, was a special guest and an interested observer.

Dr. Mitchell, who was in charge of the MEDS, expressed appreciation in behalf of the doctors to the Medical Society's MEDICAL BUREAU operators, who made the initial contact with members of the group promptly and efficiently.

The 115th Evacuation Hospital of the D. C. Army National Guard was awarded the Abendroth Trophy on April 24, 1962, by Major General William H. Abendroth, Commanding General of the D. C. National Guard. The trophy was accepted by Colonel James E. Chapman, Hospital Commander. It was awarded the Unit on the basis of outstanding performance of summer field training for the year 1961. The Unit had previously been awarded a Certificate of Meritorious Service for having reached the full authorized unit strength of 217 people, including 30 medical officers from the Washington Metropolitan Area.

Dr. Albert E. Ritt, of St. Paul, Minn. was named **President-elect of the American Academy of General Practice,** April 9, at the Academy's Annual Scientific Assembly in Las Vegas, Nevada. Dr. Ritt will become President when the Academy meets in Chicago next April.

Dr. James D. Murphy, of Fort Worth, Texas, assumed the office of President at inaugural ceremonies, April 11, during the 1962 meeting.

Surgeon General Luther L. Terry of the Public Health Service has announced the establishment of a new **Division of Research Facilities and Resources** at the National Institutes of Health, effective July 15. Dr. Frederick L. Stone, currently Acting Chief of the Division of General Medical Sciences, will head the new Division. The Division will centralize the administration of some of the major NIH activities and programs which provide broad support to the Nation's biomedical research institutions.

Dr. Clinton C. Powell, presently Assistant Director of the National Institute of Allergy and Infectious Diseases, will become Chief of the Division of General Medical Sciences.

The newly elected officers of the Board of Trustees of **Woodley House,** a halfway house, are:

Dr. Leon Yochelson, *President;* Dr. George Metcalf, *Vice President;* Dr. Harold Raush, *Secretary;* and Mr. George Fisher, *Treasurer.*

Dr. David Harris, who is on the staff of St. Elizabeths Hospital, has been elected to the Board.

Woodley House, its purpose and how it functions, was described in the March issue of the MEDICAL ANNALS.

The Georgetown Clinical Society elected new officers on April 18. They are:

Dr. Richard J. Meyer, *President;* Dr. Emmett P. Madigan, *Vice President;* and Dr. William F. Colliton, Jr., *Secretary-Treasurer.*

The Society, now in its 57th year, is composed of prominent graduates of Georgetown University School of Medicine who are in active practice in the Washington Metropolitan Area.

The Washington Psychoanalytic Institute held election of officers, March 21. Dr. Alexander Halperin was elected Director; Dr. Rex E. Buxton, Chairman of the Education Committee; and Dr. Stanley L. Olinick, Secretary of the Education Committee. All were elected for a term of three years.

Dr. Robert C. Parlett has been appointed Professor of Microbiology and Chairman of the Department at **George Washington University.** Dr. Parlett has been a member of the medical faculty at Northwestern University since 1951, where he earned both his medical degree and his doctorate in philosophy. His research interests include immunology, particularly tuberculosis, he having developed a detection test for that disease.

The District of Columbia Thoracic Society, the medical section of the D. C. Tuberculosis Association, elected the following officers, May 7:

Dr. K. Albert Harden, *President-elect;* Dr. William J. Washington, Jr., *Vice President;* and Dr. Paul C. Adkins, *Secretary.*

Dr. Moe Weiss is the new President for 1962–63.

A grant of $31,440 from the U. S. Public Health Service was awarded to the **Department of Physiology and Biophysics of Georgetown University** for a training program in cardiovascular physiology research. The project director is Dr. John C. Rose, Professor and Chairman of the Department. Four additional years of support are committed in the amount of $45,800 per year.

In February, 1962 a grant of $31,245 was awarded the same Department by the National Science Foundation to construct additional animal laboratory facilities. These funds were matched by the Department. The new wing of the Animal Research Facility will be completed this month.

The Kenner Army Hospital at Fort Lee, Va. was **dedicated,** April 16, 1962. The new Hospital commemorates the late Major General Albert W. Kenner, MC, USA (Ret.), an Army doctor for 32 years before he retired in 1949. The principal speaker at the dedication ceremonies was Lieutenant General Leonard D. Heaton, Surgeon General of the Army.

General Kenner was a veteran of both World Wars. In World War II he was Chief Surgeon for General Patton's task force landing at Casablanca, Morocco, on November 8, 1942. He later became Chief Medical Officer, Supreme Headquarters Allied Powers in Europe, responsible for coördinating medical services of air, sea and ground forces for the invasion of Europe. For ten years preceding his death in 1959, he was Medical Director of the Columbia Hospital for Women in Washington, D. C. General Kenner was elected an Honorary member of the Medical Society of D. C. in 1948.

Major General Oliver K. Niess, Surgeon General of the U. S. Air Force and an Honorary member of the D. C. Medical Society, has accepted the title of "Honorary President" of the **Association of Military and Flight Surgeons of Central America,** which was organized at Managua, Nicaragua. This new Association was the direct outgrowth of the Latin-American Medical Conference in the Panama Canal Zone, March 26–28, which was sponsored by the United States Air Force. The President is Major Oliverio Sierra Franco, Chief Flight Surgeon of the Guatemalan Air Force.

The purpose of the Association is to protect the health of countries in Central America by exchanging information about epidemics and on medical techniques for handling problems of mutual concern, such as malnutrition and parasites. Much more significant is the long-range goal contained in the charter, i.e., "to bring into being a Central American Union through the noble instrument of medicine."

Dr. James A. Shannon, Director of the National Institutes of Health, was **awarded the Public Welfare Medal** by the National Academy of Sciences, April 24, at a dinner at the Statler-Hilton Hotel. The Public Welfare Medal is presented in honor of outstanding achievement in the uses of science for human welfare rather than for advanced scientific knowledge in a specific discipline.

Dr. Frederick Seitz, head of the Department of Physics at the University of Illinois, was elected Academy President, effective July 1, succeeding Dr. Detlev W. Bronk, President of Rockefeller Institute. Dr. Bronk has held the presidency for the past 12 years.

Dr. Floyd S. Daft, Director of the National Institute of Arthritis and Metabolic Diseases, Public Health Service, **retired,** May 1, after more than 25 years of association with the National Institutes of Health. He had been Director of NIAMD since mid-1953.

Dr. Daft is currently Chairman of the Board of the Federation of American Societies for Experimental Biology. He has served as President of the American Institute of Nutrition and has also been Assistant Editor of *Nutrition Reviews* and Associate Editor of the *Journal of Nutrition.* He served as Chief of the old Laboratory of Biochemistry and Nutrition and as Assistant Director of NIH's early Experimental Biology and Medicine Institute. This Institute formed the nucleus for the present NIAMD.

The National Library of Medicine has moved into its new building on the grounds of the National Institutes of Health. The Library, at its old location at Seventh Street and Independence Avenue, S.W., was open to the public for the last time on April 11. On April 12, 13 and 14 the final moving of staff and equipment to Bethesda was completed and the Library opened for business in its new location at 8600 Wisconsin Avenue, Bethesda 14, Md., on April 16.

Personals

Dr. Worth B. Daniels and Dr. Edgar W. Davis were this year's recipients of the Gold-headed Canes awarded for distinguished service to the Washington Hospital Center, presented at its annual Medical Staff Dinner, April 26, at the Hotel Statler-Hilton. Dr. Davis is a member of the active staff and Dr. Daniels, a member of the senior advisory staff of the Hospital Center.

Presiding at the dinner, which is given each year in honor of the residents and interns, was Dr. Theodore J. Abernethy, President of the Medical Staff. Winner of first prize in the essay contest, which is conducted as a part of this occasion, was Dr. James M. Hollister, third-year resident in medicine. He presented his paper, entitled "Clinically Undiagnosed Tuberculosis in a Large General Hospital," following the dinner.

Certificates of Appreciation were presented to **Drs. Davis, Ralph W. Caulk, and J. Spencer Dryden** for services rendered as Past Presidents of the Medical Staff of the Center.

Dr. Winfred Overholser, Superintendent of St. Elizabeths Hospital, was named "outstanding alumnus of the year" by the Boston University School of Medicine, May 5, during the observance of its 87th anniversary. Dr. Overholser, of the Class of 1916, is the ninth recipient of the annual award.

At the meeting of the American College of Physicians in Philadelphia, April 9–12, **Dr. Wallace M. Yater** was reëlected Secretary-General for three years.

Dr. Ella Oppenheimer, who retired, May 11, as Chief of the Bureau of Maternal and Child Health for the District of Columbia, was honored at a reception, May 8, at the Mayflower Hotel, attended by a host of colleagues and friends. She was presented the District's Distinguished Service Award by Dr. Frederick C. Heath, Deputy Director of the Health Department.

ELLA OPPENHEIMER, M.D.

Aside from a few years in private practice, Dr. Oppenheimer has devoted her entire medical career to public service. She was associated with the Children's Bureau, U. S. Department of Labor, from 1922 to 1924 and again from 1930 to 1936, when she was appointed Director of the D. C. Bureau of Maternal and Child Health.

Dr. Samuel Shwartz, who succeeds Dr. Oppenheimer, has been associated with the Bureau since 1954, with the exception of the past year, when he has been on the staff of the National Institutes of Health.

Dr. Josephine J. Buchanan, formerly Chief of the Department of Physical Medicine and Rehabilitation at D. C. General Hospital, received a Citation for Meritorious Service, March 23, in recognition of her work with the physically handicapped. It was presented by Mr. J. Leo Lynch, Chairman of the

President's Committee on Employment of the Handicapped, in behalf of his Committee and the District Commissioners' Committee on Employment of the Handicapped. This is the second such citation Dr. Buchanan has received for her work. The first one was given in 1957.

Dr. Robert J. Benford has received the 1962 award from the Aerospace Medical Association. Dr. Benford was Editor of *Aerospace Medicine*, formerly the *Journal of Aviation Medicine*, from 1955 to 1960, when he retired from the United States Air Force. The citation recognized his contribution to the Association while Editor through "judiciously disseminated articles of interest, scientific merit, as well as provocative subjects to stimulate the scientific membership." Since 1960 Dr. Benford has been on the staff of the Pharmaceutical Manufacturers Association as Medical Director.

Dr. Daniel L. Finucane, who retired recently as Director of the D. C. Department of Public Health, was honored by the D. C. Tuberculosis Association at its Annual Meeting, May 7, when he received the first Edward Kramer Funkhouser Memorial Award for distinguished service in public health. In presenting the Award to Dr. Finucane, the Association paid tribute to his work in the field of tuberculosis during his more than 31 years of service with the Health Department. Dr. Finucane received a medal and his name will be engraved on a permanent bronze plaque at the Association headquarters.

The Funkhouser Award honors the memory of the immediate Past Executive Director of the Association, who died in 1958.

Dr. James J. Feffer was elected a Trustee of the American Society of Internal Medicine at its Sixth Annual Meeting in Philadelphia, April 7. He was also appointed Chairman of the Medical Service Committee. Dr. Feffer is Associate Clinical Professor of Medicine and Chairman of the Section of Pulmonary Disease at George Washington University School of Medicine.

Dr. Thomas W. Mattingly has been appointed by the District Commissioners to membership on the Citizens' Traffic Board for a term of three years, ending March 31, 1965.

Dr. William B. Walsh, founder and President of Project HOPE, was presented the Service-to-Mankind Award by the Sertoma Club of Washington at the Club's Golden Anniversary dinner, May 3, at the Presidential Arms.

Dr. John E. Smith, formerly Chief, Research Requirements Division, Office of the Civil Air Surgeon, **retired from the Federal Aviation Agency** in March. He has joined the United Air Lines as Regional Medical Director in the Washington Office. He will also serve as consultant in cardiovascular diseases for the airline.

Dr. Smith is Assistant Clinical Professor of Medicine at George Washington University School of Medicine. His former positions included: Chief of the Medical Division, Civil Aeronautics Administration, and Acting Civil Air Surgeon, FAA.

Dr. Milton Gusack and Dr. Gordon M. Meade were elected to the Board of Directors of the D. C. Tuberculosis Association at its Annual Meeting at the National Press Club, May 7. Dr. Gusack was elected for a one-year term and Dr. Meade, an Associate member of the D. C. Medical Society, for a three-year term.

Letters to the Editor

MONTANA MEDICINE

The April 1962 issue of the MEDICAL ANNALS OF THE DISTRICT OF COLUMBIA has just been received in this office. May I express my appreciation and thanks to you for your comments as the "Observer" upon the volume entitled "Medicine in the Making of Montana," which will be published by this Association in the immediate future. I do sincerely appreciate the comments that you have published in your journal and particularly the last paragraph.

For your information, the regular edition of this volume, which will be bound in buckram, will be sold at $10 per copy. A special limited edition, which will be covered in fawn deerskin, will be sold at $25 per copy.

Very best wishes.

Sincerely yours,
L. R. HEGLAND
Executive Secretary,
Montana Medical Association

INSECT STING ALLERGY

Thank you for your assistance in referring names of persons allergic to insect sting to the Insect Registry. Between August and the end of December over 700 names were sent to us and over 650 completed questionnaires have been returned.

We have been interested to note on tallying replies received that insect sting allergic persons have a high incidence of other allergic reactions. Of 517 systemic reactors, 26 per cent had a positive personal history of atopy, and 137 had a positive family history of atopy. At the same time, however, we found 78 severe generalized reactions occurring in persons with an entirely negative personal and family history of atopy. Over 10 per cent of our total respondents thus far have stated they are intolerant to penicillin, and, in all, 20 per cent of our sting allergics report intolerance to one or more drugs.

Advance warning before the occurrence of systemic reaction to insect sting often is not present. Seventy-five per cent of our group reported no unusual local reactions prior to their general reaction. And of 174 persons having a severe generalized reaction, in many cases with some period of unconsciousness, 130 reported no advance unusual reactions from previous stings.

There was little relationship between the local reactions and the severity of general reactions. If anything, there is a slight tendency for severe reactors to have relatively smaller local reactions at the site of sting than those reporting milder sting reactions. The rate of progression of the sensitive state to insect sting is unpredictable. Severe general reaction may occur without fatal outcome, even after eight episodes in which the patient became unconscious. One patient writes us that he has had from 20 to 25 severe reactions. Another states that he has had 50 mild, generalized reactions. Of 626 replies, 195 persons describe two or more generalized reactions. Of 258 persons reporting repeated stings, 160 became progressively worse. Seventy-three reported that reactions were unchanged in intensity. Twenty-five believed that their reactions were decreasing in intensity. Insect identification, depth, and site of injection are, of course, uncontrolled factors here. Treatment by hyposensitization appears to benefit sting reactors. Of 94 general reactors treated, and re-stung, 76 reported lessened reaction. Occasional persons continue to have reactions after what appears to be adequate courses of treatment.

Bees, yellow-jackets, and wasps were blamed, in that order, as the culprit for insect allergic reaction. Most of the reactions occurred between May and October, with August the month of highest incidence.

Thank you again for your past coöperation. We anticipate that this study will be of increasing value as time goes on. We would like to increase the size of the Registry and would appreciate any additional names you can send to us.

Very truly yours,
ELOISE W. KAILIN, M.D.
Chairman, Insect Allergy Committee,
The American Academy of Allergy

Obituaries

BENJAMIN L. NAIMAN, M.D.
(1885–1962)

Dr. Benjamin L. Naiman, an Associate member of the Medical Society of the District of Columbia, died, April 23, 1962, at his home, 3220 17th Street, N.W.

Dr. Naiman was born, August 13, 1885, in Lithuania, to Isaac and Yetta Naiman. The family came to the United States and settled in Baltimore, Md., where Dr. Naiman received his early schooling. He graduated from the University of Maryland School of Medicine in 1910. The following year he interned at Sinai Hospital in Baltimore.

Dr. Naiman practiced in Baltimore from 1911 to 1915, in Hopewell, Va., from 1915 to 1918, and in Norfolk, Va., from 1919 to 1926. He began his practice in the District of Columbia in 1927.

Elected to Active membership in the Medical Society of the District of Columbia in 1928, he continued his membership until 1934. He was re-elected to Active membership in 1944, transferring to Associate membership in 1958, when he retired from active practice. He was also a member of the American Medical Association, the Southern Medical Association, and the American Academy of General Practice.

He leaves three nieces, Mrs. Isabel Rosenberg, of Bethesda, Md., Mrs. Edgar Sharlin, and Mrs. Henrietta Seidman.

Myocarditis—Sanders and Favour

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Blue Shield on the March—Blake

(*Continued from page 369*)

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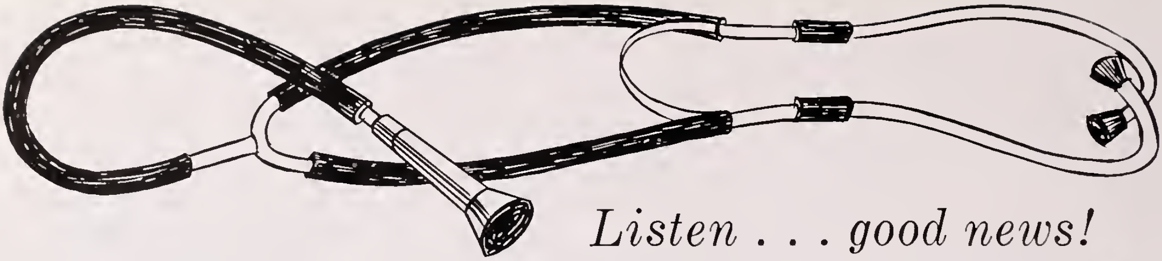

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Kestler reports in controlled study: *Average time for restoring patients to full activity: with Soma, 11.5 days; without Soma, 41 days.* (*J.A.M.A. Vol. 172, No. 18, April 30, 1960.*)

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only in higher dosages. Soma is available in 350 mg. tablets. USUAL DOSAGE: 1 TABLET Q.I.D.

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– PLUS BILE SALTS TO AID IN DIGESTION OF FAT, AND CELLULASE TO AID IN DIGESTION OF FIBROUS VEGETABLES

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COTAZYM-B is a new comprehensive digestant containing bile salts, cellulase and *lipancreatin* for supplementing deficient digestive secretions and helping to restore more normal digestive processes. *Lipancreatin* – "the most potent pancreatic extract available"[3] – is a concentrated pancreatic enzyme preparation developed by Organon.[4] It has been clinically proven to be an effective agent for treating digestive disorders of enzymatic origin.[1,4,5,6,7,8] COTAZYM-B is indicated for the symptomatic relief of dyspeptic or functional digestive disturbances characterized by bloating, belching, flatulence and upper abdominal discomfort.

Dosage: 1 or 2 tablets with water just before each meal.

Organon

REFERENCES: 1. Best, E. B., Hightower, N. C., Jr., Williams, B. H., and Carobasi, R. J.: South. M.J. 53:1091, 1960. 2. Analytical Control Laboratories, Organon Inc. 3. Best, E. B., et al.: Symposium at West Orange, N. J., May 11, 1960. 4. Thompson, K. W., and Price, R. T.: Scientific Exhibit Section, A.M.A., Atlantic City, N. J., June 8-12, 1959. 5. Weinstein, J. J: Discussion in Keifer, E. D., Am. J. Gastro. 35:353, 1961. 6. Ruffin, J. M., McBee, J. W., and Davis, T. D.: Chicago Medicine, Vol. 64, No. 2, June, 1961. 7. Berkowitz, D., and Silk, R.: Scientific Exhibit Section, A.M.A., New York, June 25-30, 1961. 8. Berkowitz, D., and Glassman, S.: N. Y. St. J. Med. 62:58, 1962.

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Fourteen patients, age 66 to 77, treated with Winstrol, usually in a dosage of 6 mg. daily, for various periods in order to correct underweight, weakness and chronic fatigue. Marked improvement occurred in appetite, sense of well-being and strength; almost all patients gained weight.

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RELIEF OF PAIN, IMPROVEMENT IN MOBILITY

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...for patients with malignant disease—
NOTABLE WEIGHT GAINS, INCREASED APPETITE AND SENSE OF WELL-BEING

Twenty-six patients, mostly women, weak, emaciated and seriously ill, were administered Winstrol in dosage of 6 mg. daily for periods extending up to 14 months (average 6.7 months). Notable weight gains occurred. Patients showed increased appetite, alertness and confidence, better appearance, increased mobility and tolerance to pain.

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One hundred and twenty children, age 1 to 11 years, underweight and in poor health, were given Winstrol for several months. Majority received daily dosage of from 2 to 4 mg. In nearly all, appetite was improved. Over 70 per cent showed significant gains in weight of from 5 to 17 pounds.

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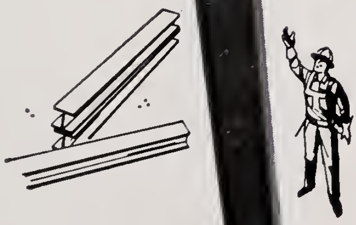
Complete bibliography and literature available on request. Before prescribing, consult literature for additional dosage information, possible side effects and contraindications.



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Supplied: Bottles of 60 scored tablets.

References: 1. Fries, E. D.: In Hypertension, ed. by J. H. Moyer, Saunders, Phila., 1959 p. 123. 2. Fries, E. D.: South M. J. **51**:1281 (Oct.) 1958. 3. Finnerty, F. A. and Buchholz, J. H.: GP **17**:95 (Feb.) 1958. 4. Gill, R. J., et al.: Am. Pract. & Digest Treat. **11**:1007 (Dec.) 1960. 5. Brest, A. N. and Moyer, J. H.: J. South Carolina M. A. **56**:171 (May) 1960. 6. Wilkins R. W.: Postgrad. Med. **26**:59 (July) 1959. 7. Gifford, R. W., Jr.: Read at the Hahnemann Symp. on Hypertension, Phila. Dec. 8 to 13, 1958. 8. Fries, E. D., et al.: J. A. M. A. **166**:137 (Jan. 11) 1958. 9. Ford, R. V. and Nickell, J.: Ant. Med. & Clin. Ther. **6**:461, 1959.

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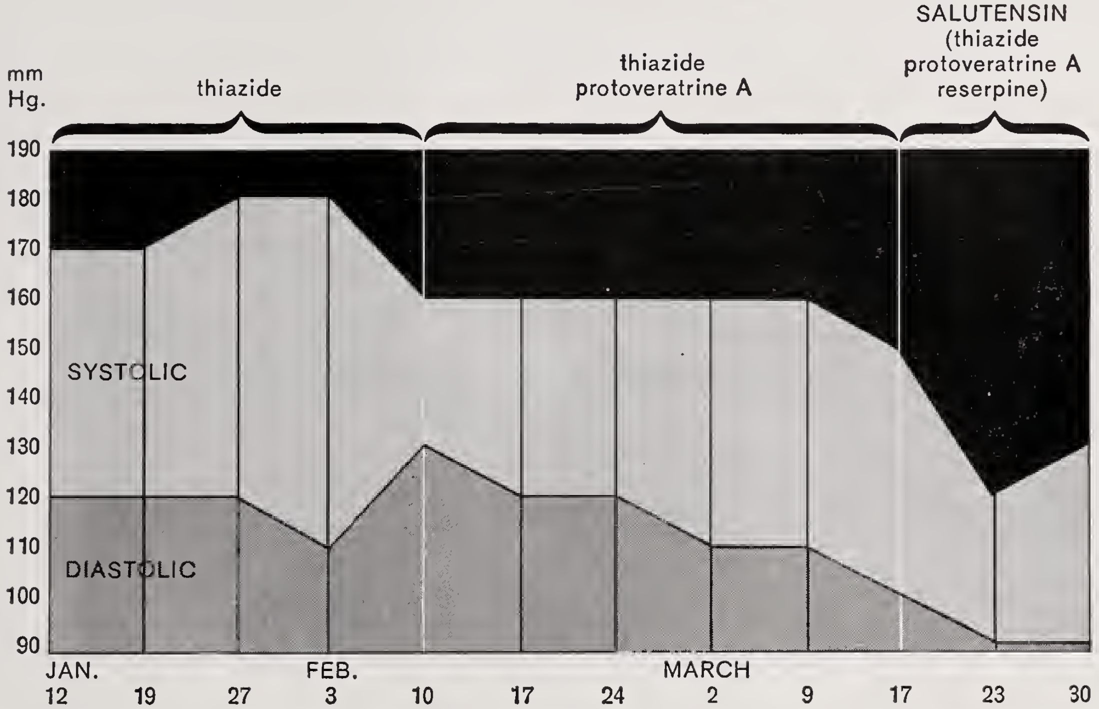
(Adapted from Spiotta, E. J.: Report to Department of Clinical Investigation, Bristol Laboratories)



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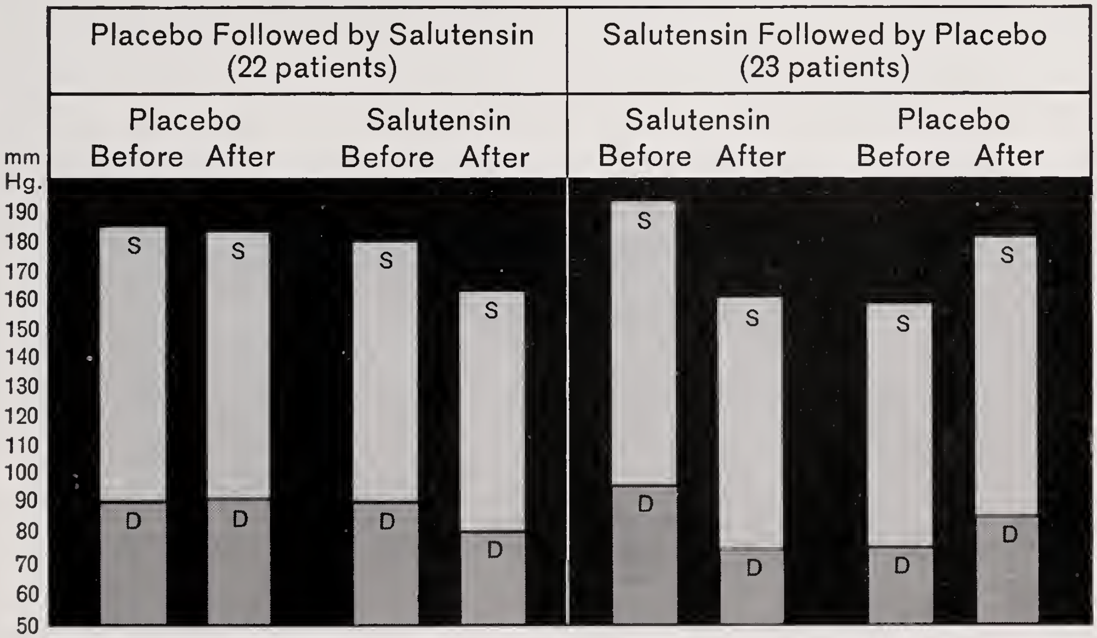
Mean Blood Pressures–Systolic (S) and Diastolic (D)



In this "double blind" crossover study of 45 patients, the mean systolic and diastolic blood pressures were essentially unchanged or rose during placebo administration, and decreased markedly during the 25 days of Salutensin therapy. (Smith, C. W.: Report to Department of Clinical Investigation, Bristol Laboratories.)

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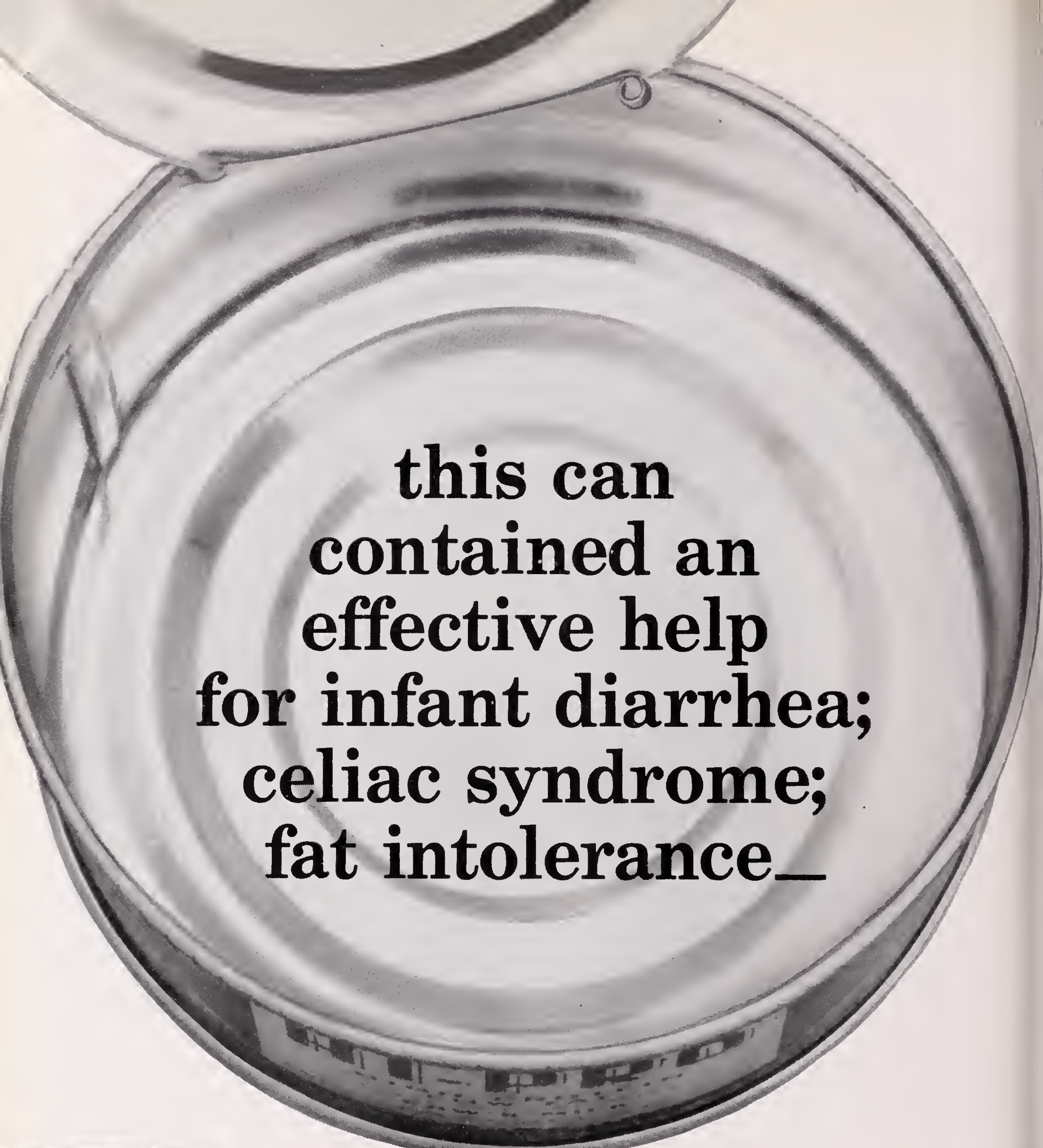

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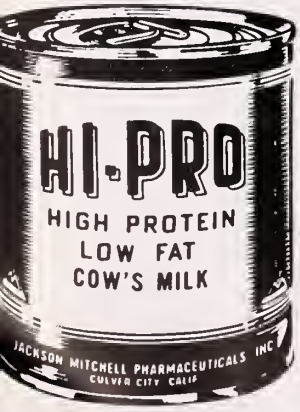

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October 25–27: Divisional Meeting, American Psychiatric Association. Shoreham Hotel, Washington. Address: Dr. Norman Taub, 3900 Garrison Street, N.W., Washington 16, D. C.

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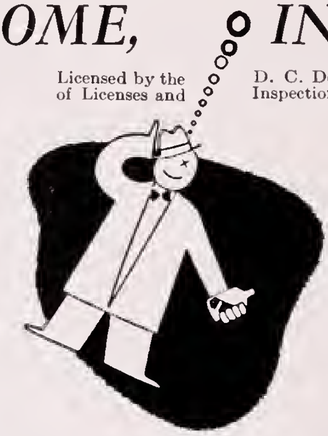

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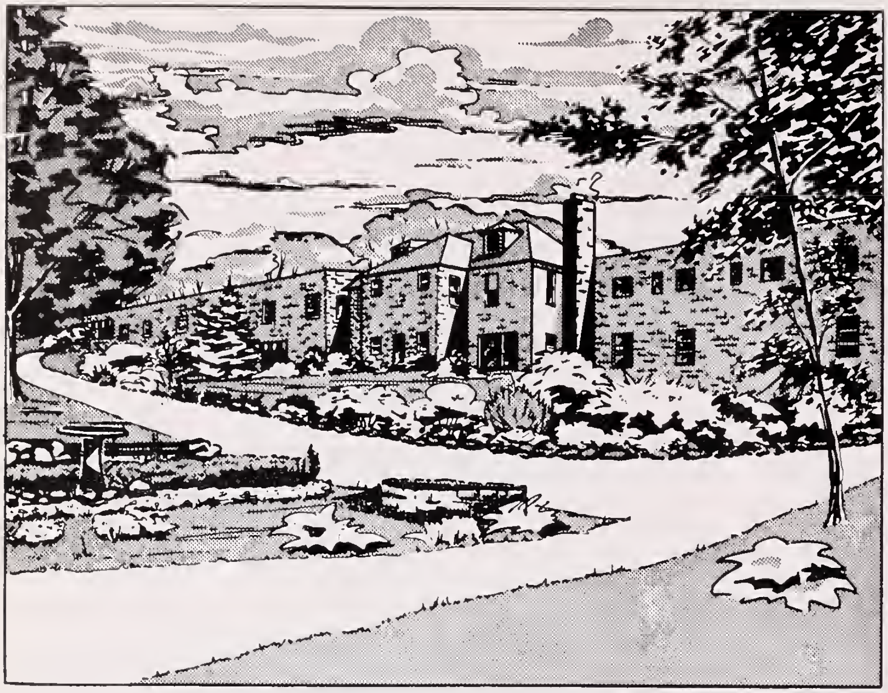

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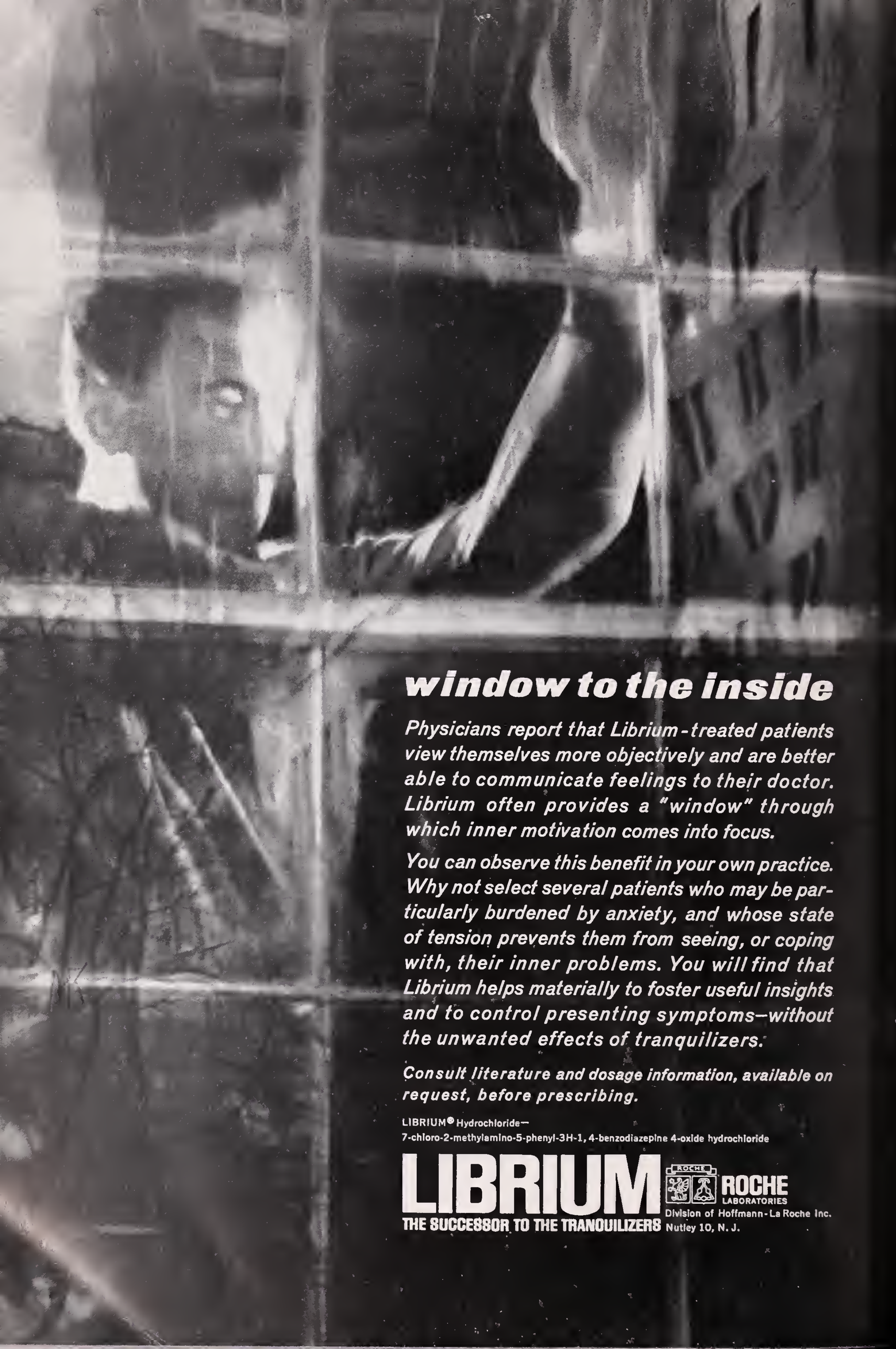

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